STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 182070

TO: Richard Schnizer
Location: rem/2D30/2C18
Art Unit: 1635
Tuesday, March 14, 2006

Case Serial Number: 10/725015

From: Deirdre Arnold
Location: Biotech-Chem Library
REM 1A55
Phone: 571-272-2532

Deirdre.Arnold@uspto.gov

Search Notes

RUSH

- Very few hits were found with the structure search; please contact me if you have ideas for expanding it.
- For MARPAT hits, only the first hit structure is displayed.
- No date restrictions were applied.
- Because there were so few structure hits, a text search was also done. ***These answers are displayed separately from the structure hits.***
- Beware of false hits on the names in the inventor search.

Please feel free to contact me if you have any questions or would like to amend the search.

Thank you for using STIC services.

Regards,
Deirdre Arnold

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Access DB# 182070

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MAR 13 2006
STIC

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Richard Schnizer Examiner #: 76557 Date: 3/10/06
Art Unit: 1635 Phone Number ~~30~~ 2-0762 Serial Number: 10/725015
Mail Box and Bldg/Room Location: R2C18 2D30 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need. 1/9

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

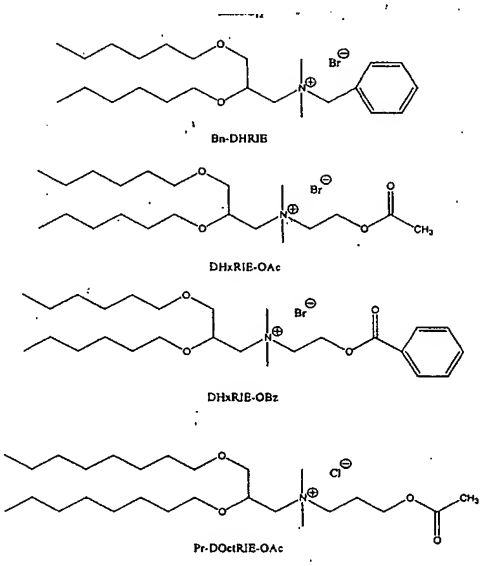
Inventors (please provide full names): Andrew Geall Joel Enas

Earliest Priority Filing Date: 12/23/02

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search these structures;

C - Chem



****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: Arnold	NA Sequence (#)		STN	
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)		Questel/Orbit	
Date Searcher Picked Up: 3/14/06	Bibliographic		Dr.Link	
Date Completed: 3/14/06	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time:	Other		Other (specify)	

PTO-1590 (8-01)

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STIC SEARCH RESULTS FEEDBACK FORM

USPTO

Biotech-Chem Library

Questions about the scope or the results of the search? Contact *the searcher or contact*:

Mary Hale, Information Branch Supervisor
571-272-2507 Remsen E01 D86

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1610*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/Biotech-Chem Library, Remsen Bldg.

sira
Search and Information Resources Administration

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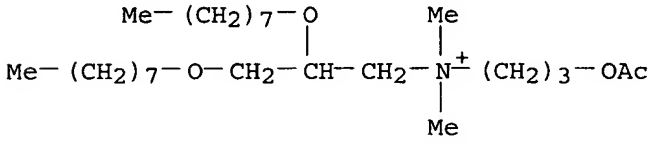
```
=> d que stat l8
L1             1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  US2003-725015/APPS
L3               TRANSFER  PLU=ON  L1 1- RN :       8 TERMS
L4             8 SEA FILE=REGISTRY ABB=ON  PLU=ON  L3
L5             3 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND ?PROPANAMINIUM?/CNS
L6             5 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 NOT L5
L7             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6 AND ?HEXYLOXY?/CNS
L8             4 SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 OR L7


=> d ide l8 1-4
YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y



L8   ANSWER 1 OF 4  REGISTRY  COPYRIGHT 2006 ACS on STN
RN   723301-95-9  REGISTRY
ED   Entered STN:  07 Aug 2004
CN   1-Propanaminium, N-[3-(acetyloxy)propyl]-N,N-dimethyl-2,3-
     bis(octyloxy)-, chloride (9CI)  (CA INDEX NAME)
MF   C26 H54 N O4 . Cl
SR   CA
LC   STN Files:   CA, CAPLUS, TOXCENTER, USPATFULL
CRN  (752202-65-6)
```



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                 ● Cl -

               2 REFERENCES IN FILE CA (1907 TO DATE)
               2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L8   ANSWER 2 OF 4  REGISTRY  COPYRIGHT 2006 ACS on STN
RN   723301-94-8  REGISTRY
ED   Entered STN:  07 Aug 2004
CN   1-Propanaminium, N-[2-(benzoyloxy)ethyl]-2,3-bis(hexyloxy)-N,N-
     dimethyl-, bromide (9CI)  (CA INDEX NAME)
MF   C26 H46 N O4 . Br
SR   CA
LC   STN Files:   CA, CAPLUS, TOXCENTER, USPATFULL
CRN  (790659-20-0)
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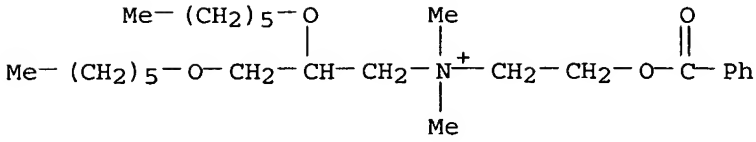
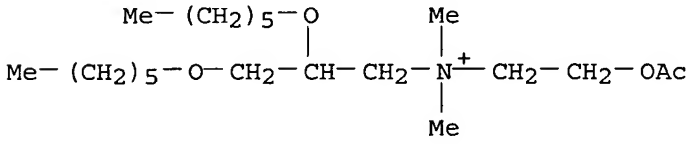


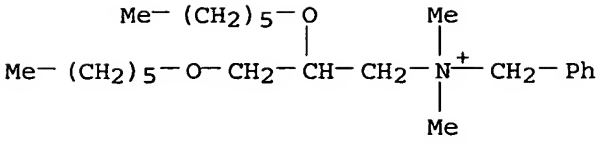
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L8 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN
RN **723301-93-7** REGISTRY
ED Entered STN: 07 Aug 2004
CN **1-Propanaminium, N-[2-(acetyloxy)ethyl]-2,3-bis(hexyloxy)-N,N-dimethyl-, bromide (9CI)** (CA INDEX NAME)
MF C21 H44 N O4 . Br
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
CRN (754978-00-2)



2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L8 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN
RN **723301-92-6** REGISTRY
ED Entered STN: 07 Aug 2004
CN **Benzenemethanaminium, N-[2,3-bis(hexyloxy)propyl]-N,N-dimethyl-, bromide (9CI)** (CA INDEX NAME)
MF C24 H44 N O2 . Br
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
CRN (752984-11-5)



● Br^-

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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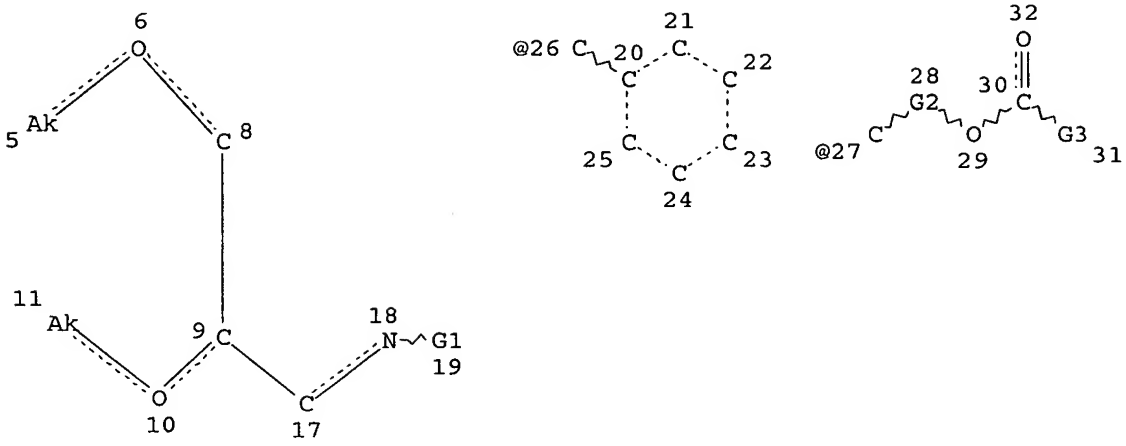
=> file stnguide
FILE 'STNGUIDE' ENTERED AT 10:58:20 ON 14 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Mar 10, 2006 (20060310/UP).
```

=> => d que stat l20
L17 STR



Cb @33

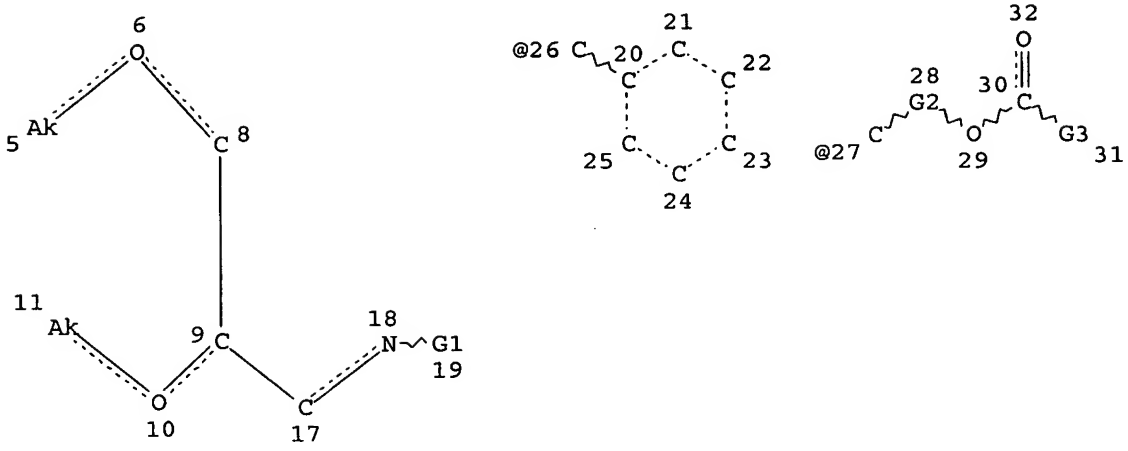
VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L20 33 SEA FILE=REGISTRY SSS FUL L17

100.0% PROCESSED 112920 ITERATIONS 33 ANSWERS
SEARCH TIME: 00.00.03

=> d que stat l25
L17 STR

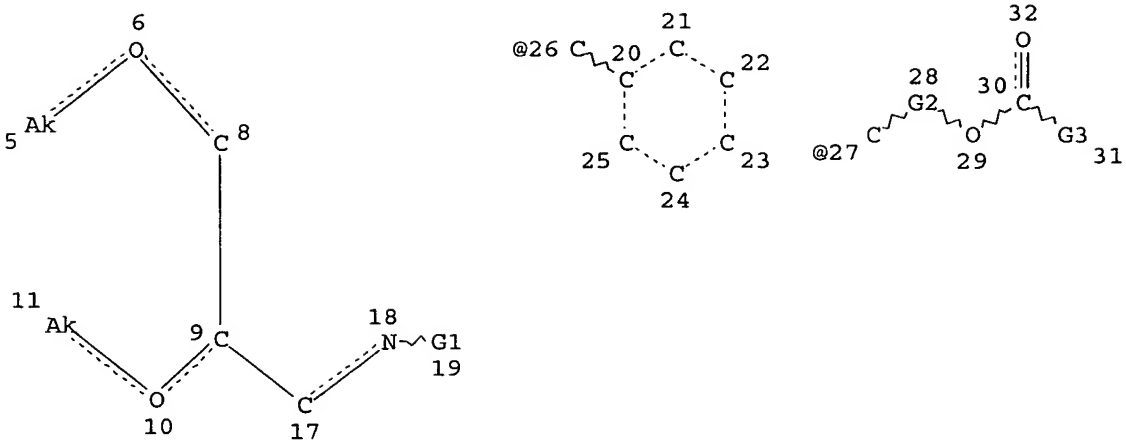


Cb @33

VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L20 33 SEA FILE=REGISTRY SSS FUL L17
L22 STR



Cb @33

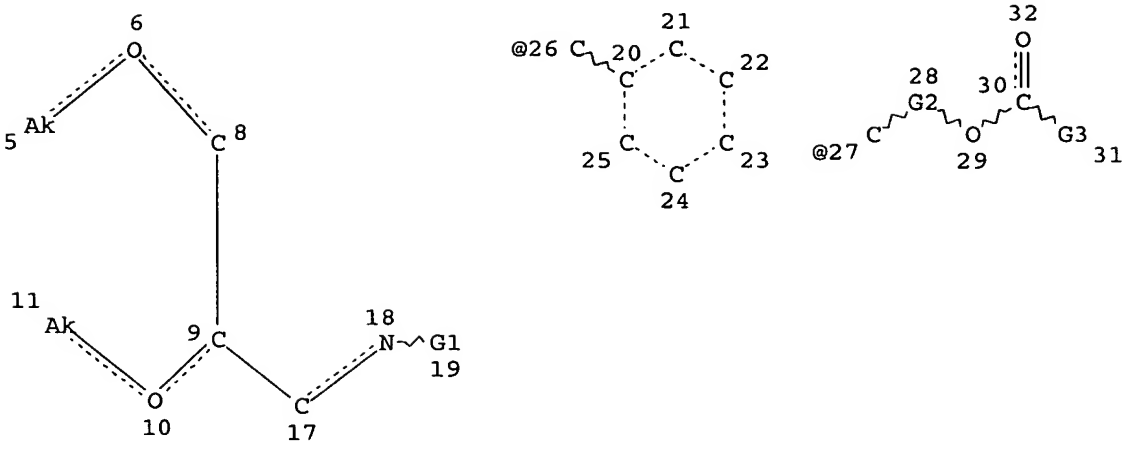
VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 5
CONNECT IS E1 RC AT 11
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L25 10 SEA FILE=REGISTRY SUB=L20 SSS FUL L22

100.0% PROCESSED 33 ITERATIONS 10 ANSWERS
SEARCH TIME: 00.00.01

=> d que stat l26
L17 STR

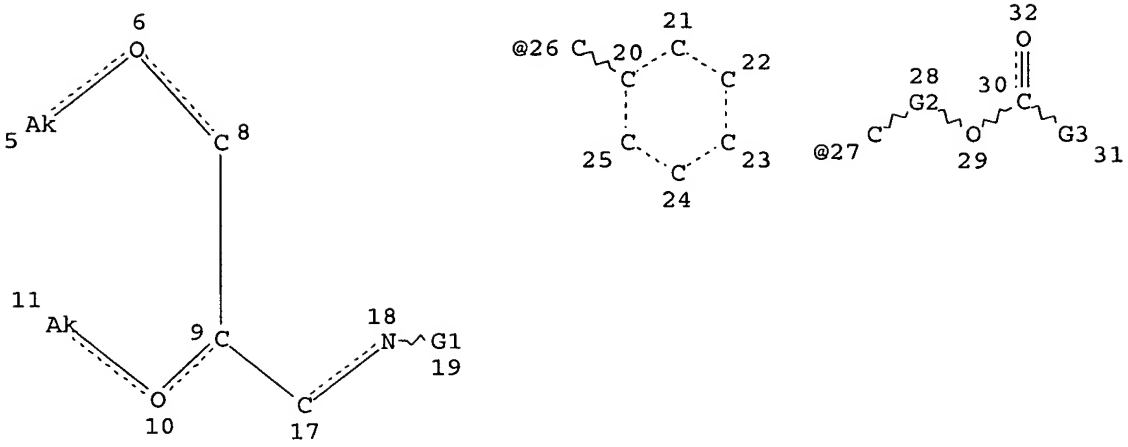


Cb @33

VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L20 33 SEA FILE=REGISTRY SSS FUL L17
L22 STR



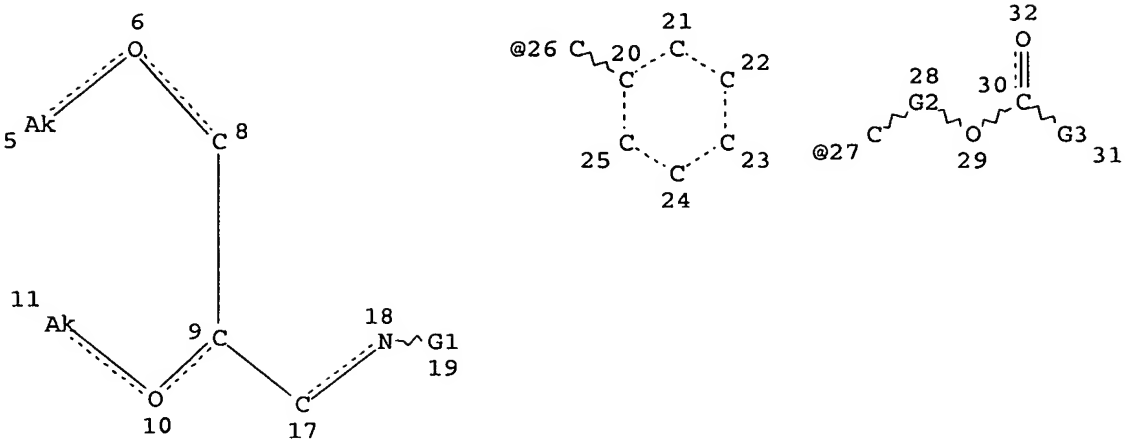
Cb @33

```
VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E1  RC AT   5
CONNECT IS E1  RC AT  11
CONNECT IS E4  RC AT  18
DEFAULT MLEVEL IS ATOM
GGCAT   IS MCY  UNS  AT  33
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS M1-X10 C  AT   5
ECOUNT  IS M1-X10 C  AT  11
ECOUNT  IS E6 C  AT  33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  23

STEREO ATTRIBUTES: NONE
L25           10 SEA FILE=REGISTRY SUB=L20 SSS FUL L22
L26            8 SEA FILE=REGISTRY ABB=ON  PLU=ON  L25 AND N=1


=> d que l28
L17             STR
```

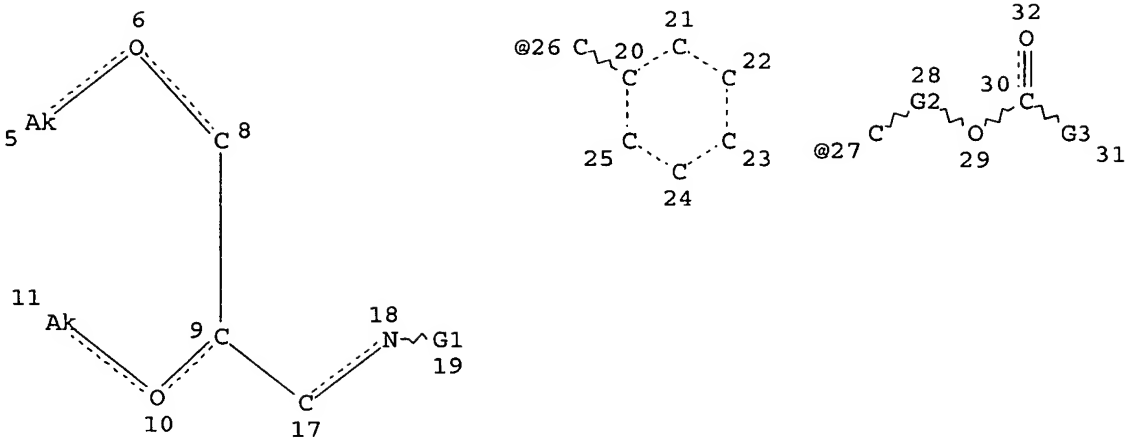


Cb @33

VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L20 33 SEA FILE=REGISTRY SSS FUL L17
L22 STR



Cb @33

```
VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E1  RC AT   5
CONNECT IS E1  RC AT  11
CONNECT IS E4  RC AT  18
DEFAULT MLEVEL IS ATOM
GGCAT   IS MCY  UNS  AT  33
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS M1-X10 C  AT   5
ECOUNT  IS M1-X10 C  AT  11
ECOUNT  IS E6 C  AT  33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  23

STEREO ATTRIBUTES: NONE
L25           10 SEA FILE=REGISTRY SUB=L20 SSS FUL L22
L26            8 SEA FILE=REGISTRY ABB=ON  PLU=ON  L25 AND N=1
L28              ANALYZE  PLU=ON  L26 1- LC :       4 TERMS


=> d l28 1-
L28          ANALYZE L26 1- LC :       4 TERMS

TERM #    # OCC  # DOC  % DOC LC
------ -------- ------ ------ ---------------
     1        4      4  50.00 CA
     2        4      4  50.00 CAPLUS
     3        4      4  50.00 TOXCENTER
     4        4      4  50.00 USPATFULL
*********  END OF L28***


=> d que stat l30
L22              STR
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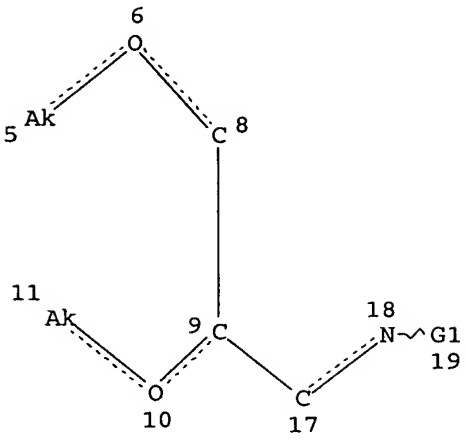
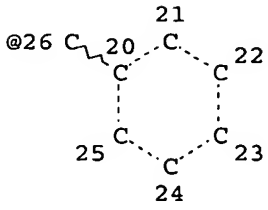
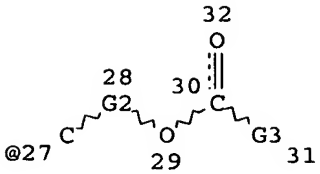






Cb @33

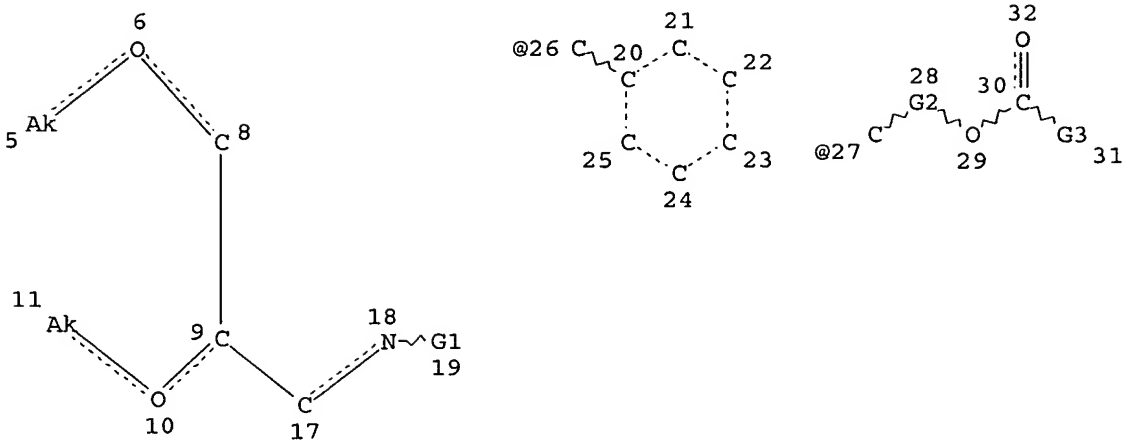
VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 5
CONNECT IS E1 RC AT 11
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L30 0 SEA FILE=BEILSTEIN SSS FUL L22

100.0% PROCESSED 31569 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.01.06

=> d que stat l39
L22 STR



Cb @33

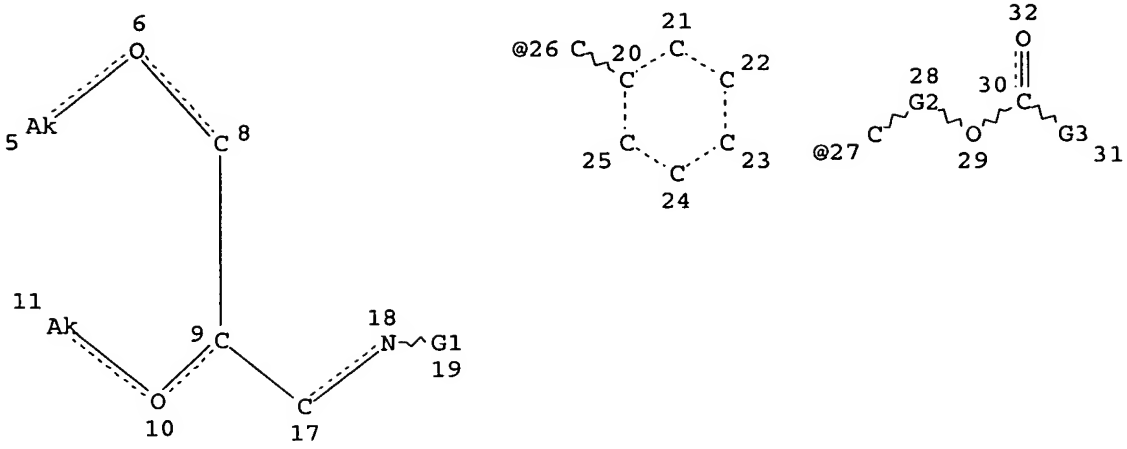
VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 5
CONNECT IS E1 RC AT 11
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L39 0 SEA FILE=WPIX SSS FUL L22

100.0% PROCESSED 7171 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.19

=> d que stat l41
L22 STR



Cb @33

VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 5
CONNECT IS E1 RC AT 11
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L41 0 SEA FILE=CHEMINFORMRX SSS FUL L22 (0 REACTIONS)

100.0% DONE 7424 VERIFIED 0 HIT RXNS 0 DOCS
SEARCH TIME: 00.00.31

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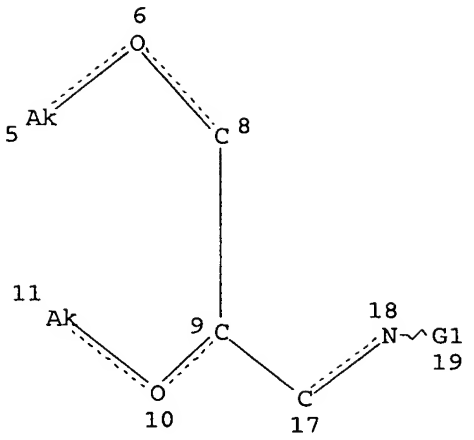
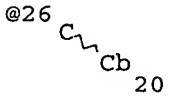
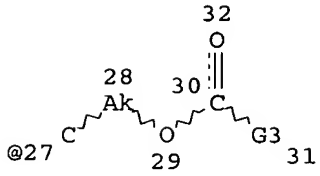
L34 STR







Cb @33 Ak @34

```
VAR G1=26/27
VAR G3=34/33
NODE ATTRIBUTES:
CONNECT IS E1  RC AT   5
CONNECT IS E1  RC AT  11
CONNECT IS E4  RC AT  18
CONNECT IS E2  RC AT  28
CONNECT IS E1  RC AT  34
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT   5 11 20 28 33 34
GGCAT   IS MCY  UNS  AT  33
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS UNLIMITED  AT  26
ECOUNT  IS M1-X10 C  UNLIMITED  AT   5
ECOUNT  IS M1-X10 C  UNLIMITED  AT  11
ECOUNT  IS E6 C  UNLIMITED  AT  33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  19

STEREO ATTRIBUTES: NONE
L36           5 SEA FILE=MARPAT SSS FUL L34

100.0% PROCESSED   38095 ITERATIONS                          5 ANSWERS
SEARCH TIME: 00.00.19


=> d his l29

     (FILE 'HCAPLUS, USPATFULL, TOXCENTER' ENTERED AT 11:28:56 ON 14 MAR 2006)
L29           5 S L26

=> d que stat l29
L17             STR
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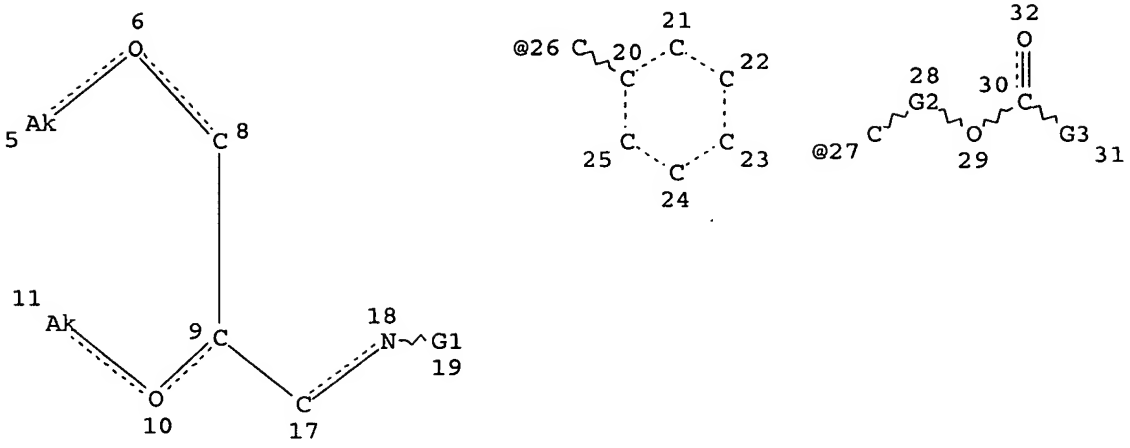
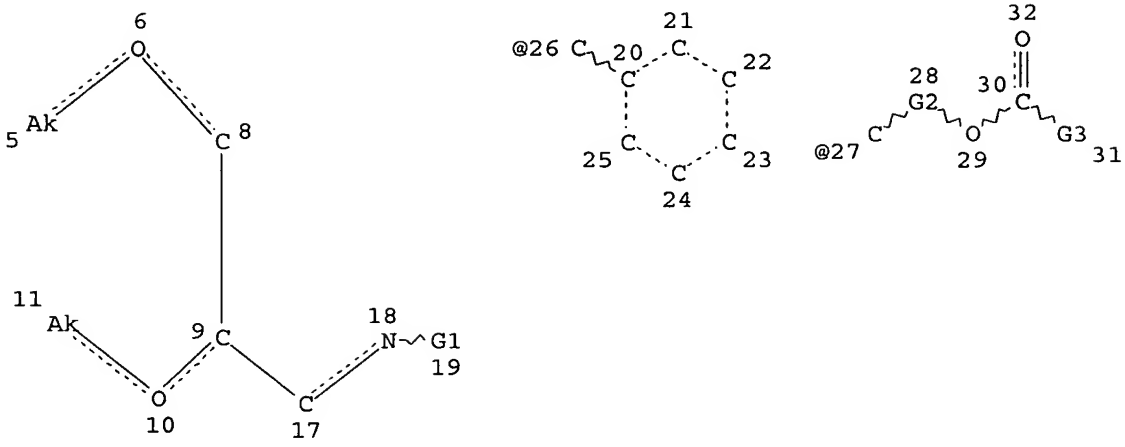


Cb @33

VAR G1=26/27
REP G2=(1-3) C
VAR G3=ME/33
NODE ATTRIBUTES:
CONNECT IS E4 RC AT 18
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 33
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X10 C AT 5
ECOUNT IS M1-X10 C AT 11
ECOUNT IS E6 C AT 33

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
L20 33 SEA FILE=REGISTRY SSS FUL L17
L22 STR



Cb @33

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VAR G3=ME/33
NODE ATTRIBUTES:
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CONNECT IS E1  RC AT  11
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DEFAULT MLEVEL IS ATOM
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DEFAULT ECLEVEL IS LIMITED
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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  23

STEREO ATTRIBUTES: NONE
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L26            8 SEA FILE=REGISTRY ABB=ON  PLU=ON  L25 AND N=1
L29            5 SEA L26


=> dup rem l29 l36 l39 l41
L39 HAS NO ANSWERS
L41 HAS NO ANSWERS
DUPLICATE IS NOT AVAILABLE IN 'CHEMINFORMRX'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
FILE 'HCAPLUS' ENTERED AT 13:25:10 ON 14 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 13:25:10 ON 14 MAR 2006
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'TOXCENTER' ENTERED AT 13:25:10 ON 14 MAR 2006
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FILE 'MARPAT' ENTERED AT 13:25:10 ON 14 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 American Chemical Society (ACS)
PROCESSING COMPLETED FOR L29
PROCESSING COMPLETED FOR L36
PROCESSING COMPLETED FOR L39
PROCESSING COMPLETED FOR L41
L101 9 DUP REM L29 L36 L39 L41 (1 DUPLICATE REMOVED)
ANSWERS '1-2' FROM FILE HCAPLUS
ANSWERS '3-4' FROM FILE USPATFULL
ANSWERS '5-9' FROM FILE MARPAT

=> file stnguide
FILE 'STNGUIDE' ENTERED AT 13:25:15 ON 14 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Mar 10, 2006 (20060310/UP).

=> d ibib ed ab hitstr 1-2
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, USPATFULL, MARPAT' - CONTINUE? (Y)/N:y

L101 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2004:589411 HCAPLUS
DOCUMENT NUMBER: 141:128864
TITLE: Method for producing sterile polynucleotide-based medicaments
INVENTOR(S): Geall, Andrew; Enas, Joel
PATENT ASSIGNEE(S): Vical Incorporated, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060363	A1	20040722	WO 2003-US38119	20031202
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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AU 2003293196	A1	20040729	AU 2003-293196	20031202
US 2004162256	A1	20040819	US 2003-725015	20031202
EP 1581201	A1	20051005	EP 2003-790187	20031202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.: US 2002-435303P P 20021223
WO 2003-US38119 W 20031202

ED Entered STN: 23 Jul 2004
AB The present invention relates to a novel method for producing formulations comprising a polynucleotide, block copolymer and cationic surfactant. The formulations produced by the current method are suitable for use in polynucleotide-based medicaments. A suitable method of production disclosed herein addnl. comprises cold filtering a mixture of a polynucleotide, block copolymer and cationic surfactant, thereby sterilizing the formulation. The method of the present invention also eliminates the need for thermal cycling of the formulation, thereby reducing the time and expense required to produce large quantities of a formulation during com. manufacturing The present invention also relates to novel cationic lipids used as surfactants. For example, a naked VR4700 plasmid DNA (5 mg/mL) in PBS was formulated with poloxamer CRL-1005 (7.5 mg/mL) and benzalkonium chloride (0.3 mM), using the thermal cycling and filtration process. Particle size of the diluted poloxamer formulation were maintained by thawing the formulation as a concentrated stock solution and then diluting to the required concentration
A dose-dependent responses of CD4+ and CD8+T cells of mice vaccinated with increasing amts. of naked VR4700 plasmid DNA or VR4700 formulated with CRL-1005 and benzalkonium chloride was observed

IT **723301-92-6 723301-93-7 723301-94-8**
723301-95-9
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(production of sterile formulations containing polynucleotide, block copolymer
and cationic surfactant)

RN 723301-92-6 HCAPLUS
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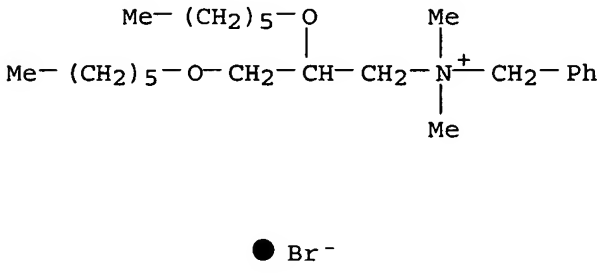
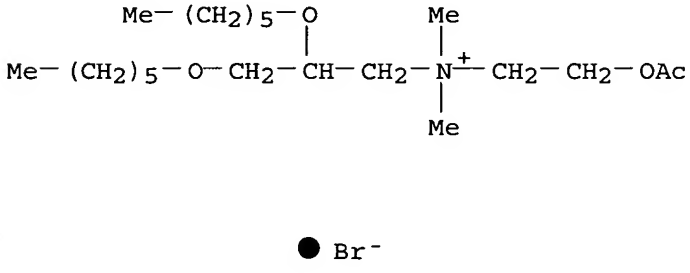
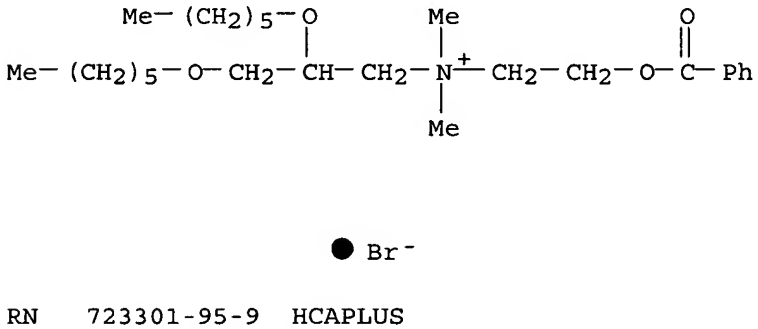


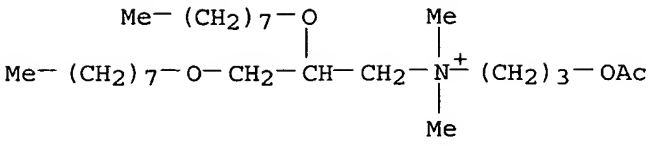
RN 723301-93-7 HCAPLUS
CN 1-Propanaminium, N-[2-(acetyloxy)ethyl]-2,3-bis(hexyloxy)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)



RN 723301-94-8 HCAPLUS
CN 1-Propanaminium, N-[2-(benzoyloxy)ethyl]-2,3-bis(hexyloxy)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)



RN 723301-95-9 HCAPLUS
CN 1-Propanaminium, N-[3-(acetyloxy)propyl]-N,N-dimethyl-2,3-bis(octyloxy)-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L101 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:589334 HCAPLUS
DOCUMENT NUMBER: 141:128852
TITLE: Method for freeze-drying nucleic acid/block copolymer/cationic surfactant complexes
INVENTOR(S): Geall, Andrew
PATENT ASSIGNEE(S): Vical Incorporated, USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060059	A2	20040722	WO 2003-US38116	20031202
WO 2004060059	A3	20051222		
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RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2508279	AA	20040722	CA 2003-2508279	20031202
US 2004157789	A1	20040812	US 2003-725009	20031202
EP 1578193	A2	20050928	EP 2003-790186	20031202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.: US 2002-435273P P 20021223
WO 2003-US38116 W 20031202

ED Entered STN: 23 Jul 2004
AB This invention relates generally to the freeze-drying of formulations comprising a polynucleotide, a block copolymer and a cationic surfactant. In the presence of a cryoprotectant or bulking agent, a formulation can be freeze-dried, whereby upon reconstitution of the dried formulation, the microparticles maintain their optimal size and aggregation or fusion is avoided. For example, a DNA/poloxamer/benzalkonium chloride (BAK) formulation (5 mg/mL DNA, 7.5 mg/ mL CRL-1005, 0.3 mM BAK) in 10% sucrose and 10 mM sodium phosphate vehicle was prepared and lyophilized.
IT **723301-92-6 723301-93-7 723301-94-8 723301-95-9**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(freeze drying of nucleic acid/block copolymer/cationic surfactant complexes for microparticles)

RN 723301-92-6 HCAPLUS
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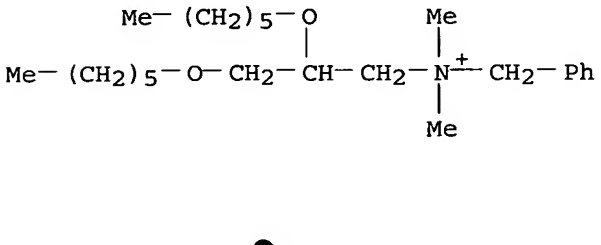

RN 723301-93-7 HCAPLUS
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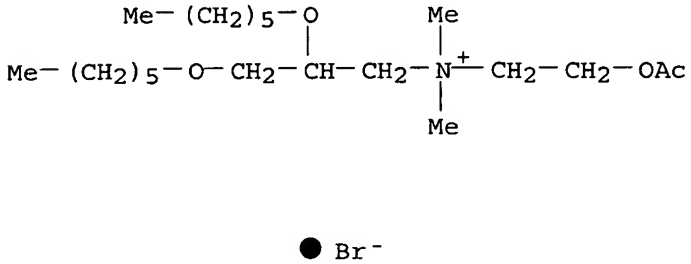

RN 723301-94-8 HCAPLUS
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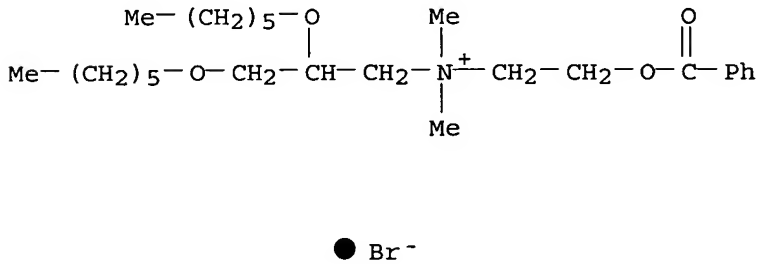
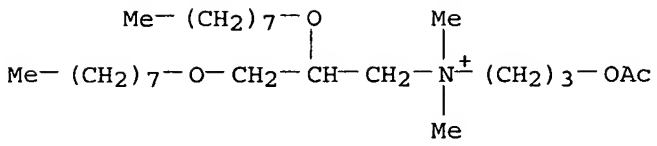


RN 723301-95-9 HCAPLUS
CN 1-Propanaminium, N-[3-(acetyloxy)propyl]-N,N-dimethyl-2,3-bis(octyloxy)-, chloride (9CI) (CA INDEX NAME)



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L101 ANSWER 3 OF 9  USPATFULL on STN
ACCESSION NUMBER:        2004:209822  USPATFULL
TITLE:                   Method for producing sterile polynucleotide based
                         medicaments
INVENTOR(S):             Geall, Andrew, Del Mar, CA, UNITED STATES
                         Enas, Joel, Fallbrook, CA, UNITED STATES
PATENT ASSIGNEE(S):      Vical Incorporated. (U.S. corporation)

                              NUMBER        KIND    DATE
                         ---------------- ------ --------
PATENT INFORMATION:      US 2004162256      A1   20040819
APPLICATION INFO.:       US 2003-725015     A1   20031202  (10)

                              NUMBER         DATE
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PRIORITY INFORMATION:    US 2002-435303P    20021223 (60)
DOCUMENT TYPE:           Utility
FILE SEGMENT:            APPLICATION
LEGAL REPRESENTATIVE:    STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK
                         AVENUE, N.W., WASHINGTON, DC, 20005
NUMBER OF CLAIMS:        27
EXEMPLARY CLAIM:         1
NUMBER OF DRAWINGS:      7 Drawing Page(s)
LINE COUNT:              1396
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB       The present invention relates to a novel method for producing
         formulations comprising a polynucleotide, block copolymer and cationic
         surfactant. The formulations produced by the current method are suitable
         for use in polynucleotide based medicaments. A suitable method of
         production disclosed herein additionally comprises cold filtering a
         mixture of a polynucleotide, block copolymer and cationic surfactant,
         thereby sterilizing the formulation. The method of the present invention
         also eliminates the need for thermal cycling of the formulation, thereby
         reducing the time and expense required to produce large quantities of a
         formulation during commercial manufacturing. The present invention also
         relates to novel cationic lipids.
IT   723301-92-6 723301-93-7 723301-94-8
     723301-95-9
       (production of sterile formulations containing polynucleotide, block
copolymer
       and cationic surfactant)
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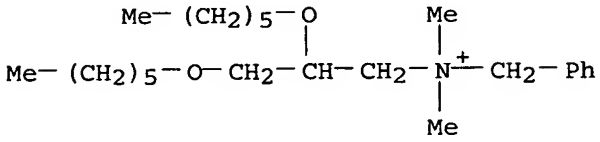
RN 723301-92-6 USPATFULL
CN Benzenemethanaminium, N-[2,3-bis(hexyloxy)propyl]-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)



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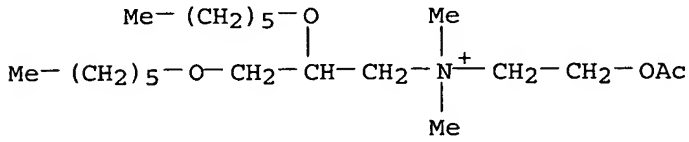
RN 723301-93-7 USPATFULL
CN 1-Propanaminium, N-[2-(acetyloxy)ethyl]-2,3-bis(hexyloxy)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)



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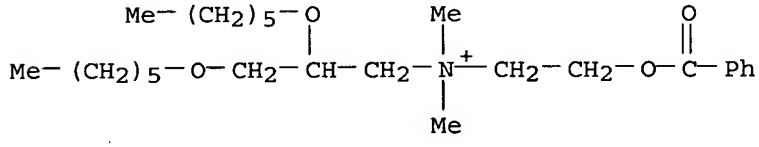
RN 723301-94-8 USPATFULL
CN 1-Propanaminium, N-[2-(benzoyloxy)ethyl]-2,3-bis(hexyloxy)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)



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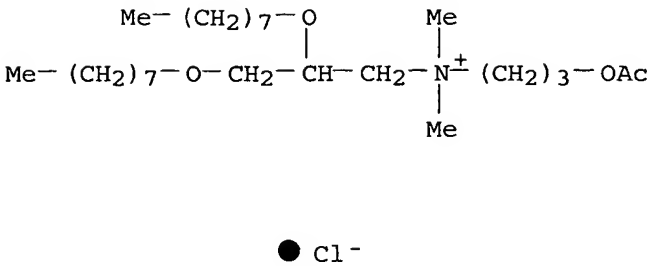
RN 723301-95-9 USPATFULL
CN 1-Propanaminium, N-[3-(acetyloxy)propyl]-N,N-dimethyl-2,3-bis(octyloxy)-, chloride (9CI) (CA INDEX NAME)



L101 ANSWER 4 OF 9 USPATFULL on STN
ACCESSION NUMBER: 2004:203897 USPATFULL
TITLE: Method for freeze-drying nucleic acid/block copolymer/cationic surfactant complexes
INVENTOR(S): Geall, Andrew, Del Mar, CA, UNITED STATES
PATENT ASSIGNEE(S): Vical Incorporated. (U.S. corporation)

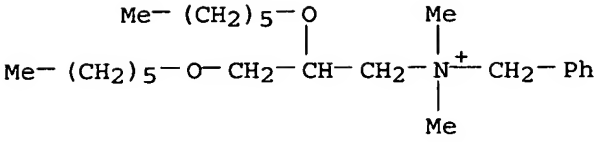
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004157789	A1	20040812
APPLICATION INFO.:	US 2003-725009	A1	20031202 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-435273P	20021223 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., WASHINGTON, DC, 20005
NUMBER OF CLAIMS: 28
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 1362
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates generally to the freeze-drying of formulations comprising a polynucleotide, a block copolymer and a cationic surfactant. In the presence of a cryoprotectant or bulking agent, a formulation can be freeze-dried, whereby upon reconstitution of the dried formulation, the microparticles maintain their optimal size and aggregation or fusion is avoided.

IT **723301-92-6 723301-93-7 723301-94-8 723301-95-9**
(freeze drying of nucleic acid/block copolymer/cationic surfactant complexes for microparticles)
RN 723301-92-6 USPATFULL
CN Benzenemethanaminium, N-[2,3-bis(hexyloxy)propyl]-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)



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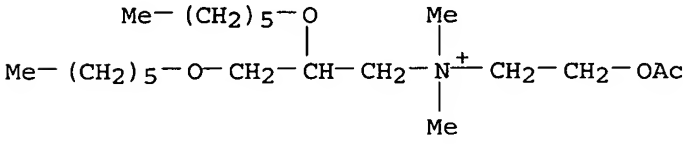
RN 723301-93-7 USPATFULL
CN 1-Propanaminium, N-[2-(acetyloxy)ethyl]-2,3-bis(hexyloxy)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)



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RN 723301-94-8 USPATFULL
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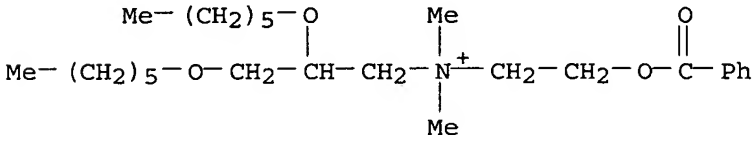

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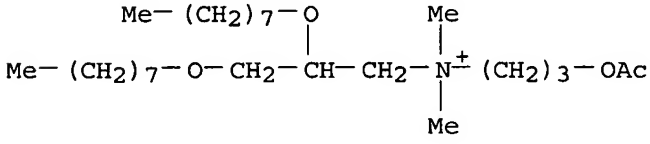
RN 723301-95-9 USPATFULL
CN 1-Propanaminium, N-[3-(acetyloxy)propyl]-N,N-dimethyl-2,3-bis(octyloxy)-, chloride (9CI) (CA INDEX NAME)



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YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, USPATFULL, MARPAT' - CONTINUE? (Y)/N:y


'ED' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):ibib ab fhit

L101 ANSWER 5 OF 9  MARPAT  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         142:50134  MARPAT
TITLE:                    Dendritic cell-binding peptides and their use in
                          therapeutic transfection compositions
INVENTOR(S):              Hart, Stephen Lewis; Writer, Michele
PATENT ASSIGNEE(S):       ICH Productions Limited, UK
SOURCE:                   PCT Int. Appl., 153 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
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     WO 2004108938      A2   20041216       WO 2004-GB2421   20040607
     WO 2004108938      A3   20050512
     WO 2004108938      B1   20050707
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             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
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     EP 1631674         A2   20060308       EP 2004-736220   20040607
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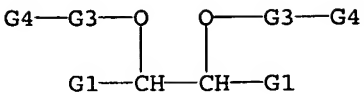
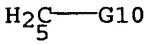
             IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
PRIORITY APPLN. INFO.:                      GB 2003-13132    20030606
                                            WO 2004-GB2421   20040607
AB   Peptides which bind to dendritic cells are disclosed.  These peptide may
     be used a target non-viral and viral vectors to such cells.  Transfection
     compns. containing such peptides may be used for gene therapy, antisense
     therapy, DNA vaccination, etc.  Thus, peptides binding to immature human
     dendritic cells were identified by panning a com. peptide library (C7C,
     from New England Biolabs).  Transfection compns. containing lipofectin, or
     lipofectamine, DNA, and such peptides to which polylysine was attached
     were used for transfection of dendritic cells.  The peptides were also
     used to retarget adenoviral vectors by producing recombinant adenovirus 5
     vectors having the peptide inserted into the HI region of the fiber
     protein of the capsid.
```

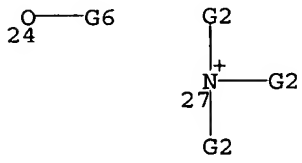
MSTR 7



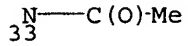
G1 = H / **5**



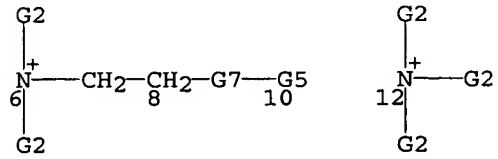
G2 = carbon chain <containing 1-6 C>
G3 = C(O) / **CH2**
G4 = **carbon chain <containing 7-23 C>**
G5 = 24 / **alkylcarbonyloxy <containing 1-6 C>** / 27 / OH / F / Cl / Br / I



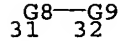
G6 = carbon chain <containing 1-4 C>
G7 = G11 / **alkylene <containing 1 or more C>** / R <containing 1 or more heteroatoms, zero or more N, zero or more O (no other heteroatoms), 1 or more C>
G8 = NH / O / 33



G9 = (2-4) CH2
G10 = **6** / 12



G11 = (1-10) 31-8 32-10



Patent location: claim 61

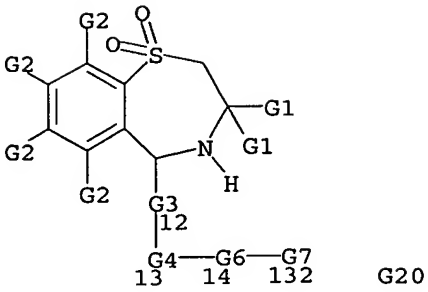
L101 ANSWER 6 OF 9 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 140:253584 MARPAT

TITLE: Preparation of novel 2,3,4,5-tetrahydro-5-(aminophenyl)-1,4-benzothiazepine-1,1-dioxide quaternary ammonium compounds as inhibitors of ileal bile acid transporter
INVENTOR(S): Sasahara, Takehiko; Mohri, Mitsunobu
PATENT ASSIGNEE(S): Asahi Kasei Pharma Corporation, Japan
SOURCE: PCT Int. Appl., 365 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020421	A1	20040311	WO 2003-JP10980	20030828
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005009805	A1	20050113	US 2003-647455	20030826
CA 2497345	AA	20040311	CA 2003-2497345	20030828
AU 2003257578	A1	20040319	AU 2003-257578	20030828
EP 1535913	A1	20050601	EP 2003-791398	20030828
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1678597	A	20051005	CN 2003-820711	20030828
PRIORITY APPLN. INFO.:			JP 2002-248586	20020828
			JP 2002-364725	20021217
			US 2002-407291P	20020903
			US 2002-434416P	20021219
			WO 2003-JP10980	20030828

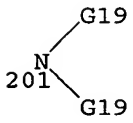
AB The benzothiazepine compound having a thioamide bond and a quaternary ammonium substituent as represented by the following general formula [I; R1, R2 = C1-10 alkyl; m = 1, 2; R3, R4 = C1-5 alkyl; Y = NHC(S), NHC(S)NH, NHC(S)O; Z = C2-10 alkylene or alkenylene wherein ≥1 methylene groups in Z are optionally substituted by phenylene or O; n = 1, 2; R5, R6, R7 = each (un)substituted C1-10 alkyl, C2-10 alkenyl, or C2-10 alkynyl, etc.; or (N+R5R6R7)n = (un)substituted C4-9 mono- or bicyclo ammonium, pyridinium, quinolinium, or isoquinolinium ring, etc.] are prepared These compds. provide drugs useful as hypocholesteremics or as preventives and remedies for hyperlipemia, arteriosclerosis, syndrome X, hepatopathy accompanying cholestasis (in particular, primary biliary cirrhosis, primary sclerosing cholangitis, etc.), obesity, fat liver, or fatty hepatitis, each containing as the active ingredient the benzothiazepine compound I inhibiting an ileal bile acid transporter.

MSTR 1

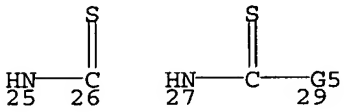


G20

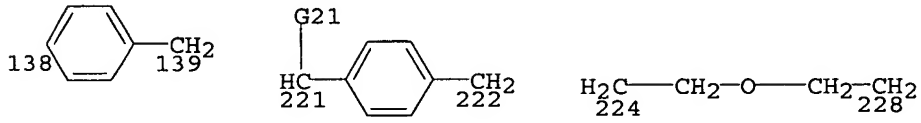
G1 = alkyl <containing 1-10 C>
G2 = dialkylamino <each alkyl containing 1-5 C> /
(2-3) H / (Specifically claimed: 201)

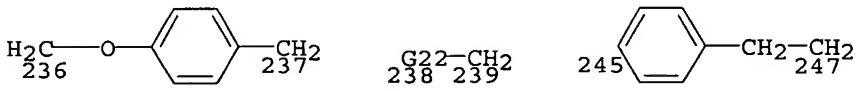


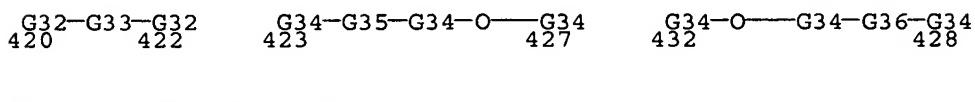
G3 = phenylene
G4 = 25-12 26-14 / 27-12 29-14



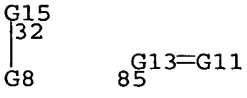
G5 = O / NH
G6 = alkylene <containing 1-20 C> (opt. substd.) /
alkenylene <containing 2-10 C> (opt. substd.) /
(Specifically claimed: 138-13 139-132 / G37 /
420-13 422-132 / 423-13 427-132 / 432-13 428-132) /
(Examples: 221-13 222-132 / 224-13 228-132 /
236-13 237-132 / 238-13 239-132 / 245-13 247-132)

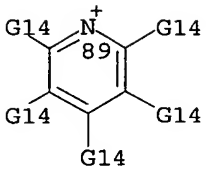


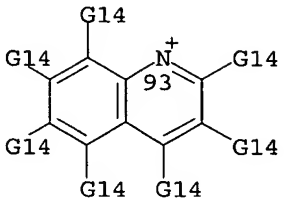


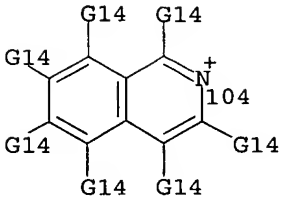


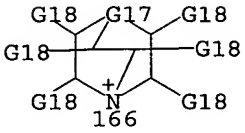
G7 = **32** / 85 / 89 / 93 / 104 /
(Specifically claimed: 166 / 206)

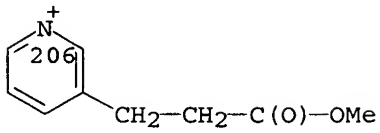




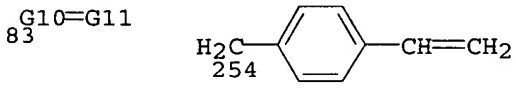


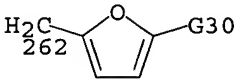


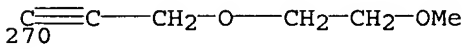


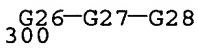


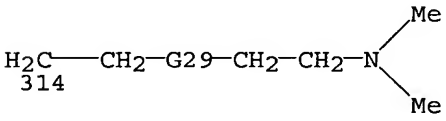
G8 = alkyl <containing 1-10 C> (opt. substd. by 1 or more G9) / alkenyl <containing 2-10 C> (opt. substd. by 1 or more G9) / alkynyl <containing 2-10 C> (opt. substd. by 1 or more G9) / 83 / 300 / (Examples: 254 / 262 / 270 / 314 / **321** / 324 / 339 / 352 / 363 / 372 / 383 / 395)

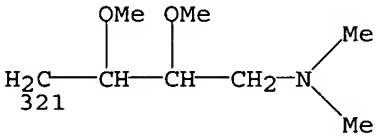


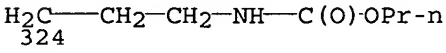


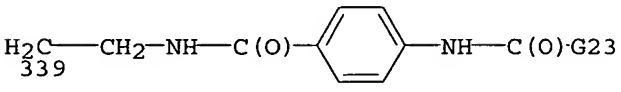


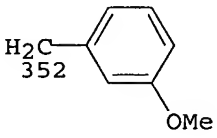


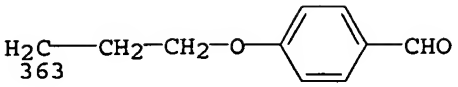


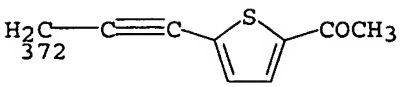


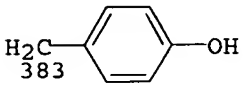


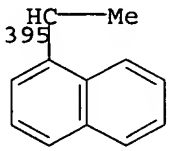












G9 = Ph / thienyl / cyclohexyl / CN / OH / CO2H / CONH2 / SO3H

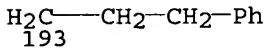
G10 = carbon chain <containing 1-10 C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.)

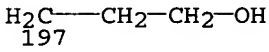
G11 = O / S

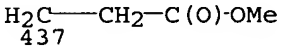
G12 = OH / CN / Ph / CONH2 / alkyl <containing 1-8 C> (opt. substd.) / alkenyl <containing 2-8 C> (opt. substd.)

G13 = heterocycle <containing 1 or more N, attached through 1 or more N, 0 or more O, 0 or more S, no other heteroatoms, saturated, (+1) charge> (opt. substd. by G12)

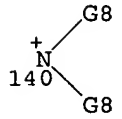
G14 = H / CN / NO2 / Ph / thienyl / pyridyl / alkoxy <containing 1-5 C> / CO2H / CONH2 / SO3H / alkyl <containing 1-9 C> (opt. substd.) / alkenyl <containing 2-9 C> (opt. substd.) / (Specifically claimed: Me / Et / Pr-n / Pr-i / Bu-n / Bu-t / pentyl / CH=CH2 / Ph / CH2Ph / 193 / CH2OH / CH2CH2OH / 197 / OMe / OEt / OPr-n / 437)

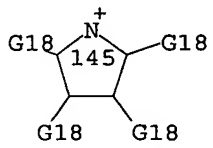


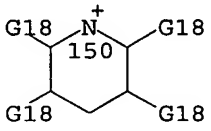


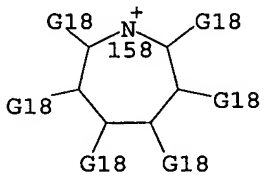


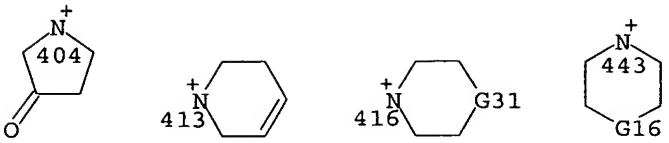
G15 = **140** / heterocycle <containing 5-10 atoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N, (+1) charge, mono- or bicyclic> (opt. substd. by G12) / (Specifically claimed: 145 / 150 / 158 / 443) / (Examples: 399 / 404 / 413 / 416)



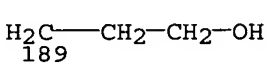




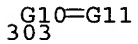




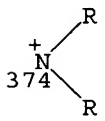
G16 = O / S / NH
G17 = CH / N
G18 = Me / Et / Pr-n / Bu-n / pentyl / CH2CH=CH2 / Ph / CH2Ph / OH / CH2OH / CH2CH2OH / 189



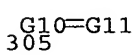
G19 = Me / Et
G20 = R <"counterion", (-1) charge> / (Examples: chloride / bromide)
G21 = H / Me
G22 = m-C6H4 / o-C6H4
G23 = Me / Et
G26 = carbon chain <containing 1-10 C, 0 or more double bonds, 0 or more triple bonds> (opt. substd. by 1 or more G9) / 303



G27 = O / S / NH (opt. substd.) / 374 / R



G28 = carbon chain <containing 1-10 C, 0 or more double bonds, 0 or more triple bonds> (opt. substd. by 1 or more G9) / 305



G29 = O / S
G30 = Me / CH2OH
G31 = C(O) / SO2
G32 = alkylene <containing 1-9 C, unbranched>
G33 = O / phenylene
G34 = alkylene <containing 1-8 C, unbranched>
G35 = phenylene
G36 = phenylene
G37 = (2-10) CH2

Patent location: claim 1
Note: additional heteroatom and ring interruptions also claimed

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

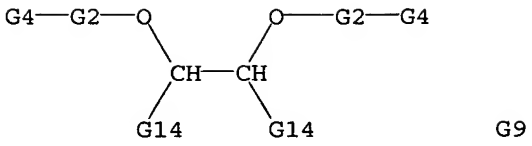
=> d ibib ab fhit 7-9
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, USPATFULL, MARPAT' - CONTINUE? (Y)/N:y

L101 ANSWER 7 OF 9 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 139:386429 MARPAT
TITLE: Complexes for the delivery of biologically-active material to cells
INVENTOR(S): Hurley, Christopher Antony; Hailes, Helen Claire; Tabor, Alethea Bernice; Hart, Stephen Lewis
PATENT ASSIGNEE(S): University College London, UK
SOURCE: PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

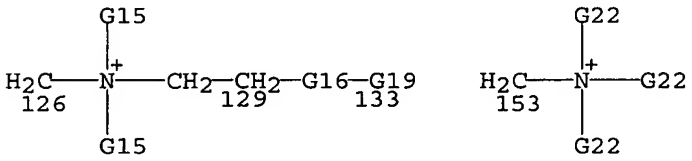
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003094974	A1	20031120	WO 2003-GB1985	20030508
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003240997	A1	20031111	AU 2003-240997	20030508
EP 1506019	A1	20050216	EP 2003-730315	20030508
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005530771	T2	20051013	JP 2004-503057	20030508
US 2005245446	A1	20051103	US 2004-983464	20041108
PRIORITY APPLN. INFO.:			GB 2002-10538	20020508
			WO 2003-GB1985	20030508
			US 2004-576270P	20040602

AB Complexes comprising lipids for delivery of a biol.-active materials, e.g., nucleic acids, proteins and small mols., to a cell, are described. Such complexes may be used to deliver biol. active material to a cell in gene therapy and vaccination. For example, a cationic lipid, 1,4-di(dimethylamino)-2,3-dioleyloxybutane diiodide was prepared, mixed with a [K]16 peptide (GACRRETAWACG), and the resulting mixture was added to plasmid DNA to form complexes for transfection of human airway epithelial cells.

MSTR 3

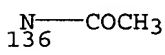


G2 = **CH2** / C(O)
G4 = **carbon chain <containing 7-24 C> (opt. substd. by 1 or more G5)**
G5 = OH / halo / hydrocarbyloxy <containing 1-6 C>
G9 = R <"pharmaceutically acceptable anion", negatively charged> / (Example: iodide)
G14 = H / **126** / 153

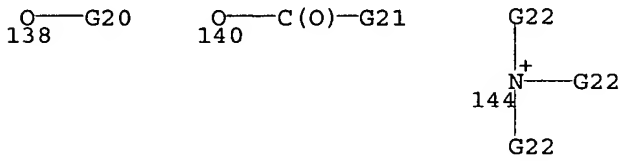


G15 = carbon chain <containing 1-6 C>
G16 = **(1-3) 134-129 135-133**

G17 = NH / **CH2** / O / 136



G18 = **alkylene <unbranched>**
G19 = 138 / **140** / 144 / OH / F / Cl / Br / I



G20 = carbon chain <containing 1-4 C>
G21 = **alkyl <containing 1-6 C>**
G22 = carbon chain <containing 1-6 C>
Patent location: claim 43

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

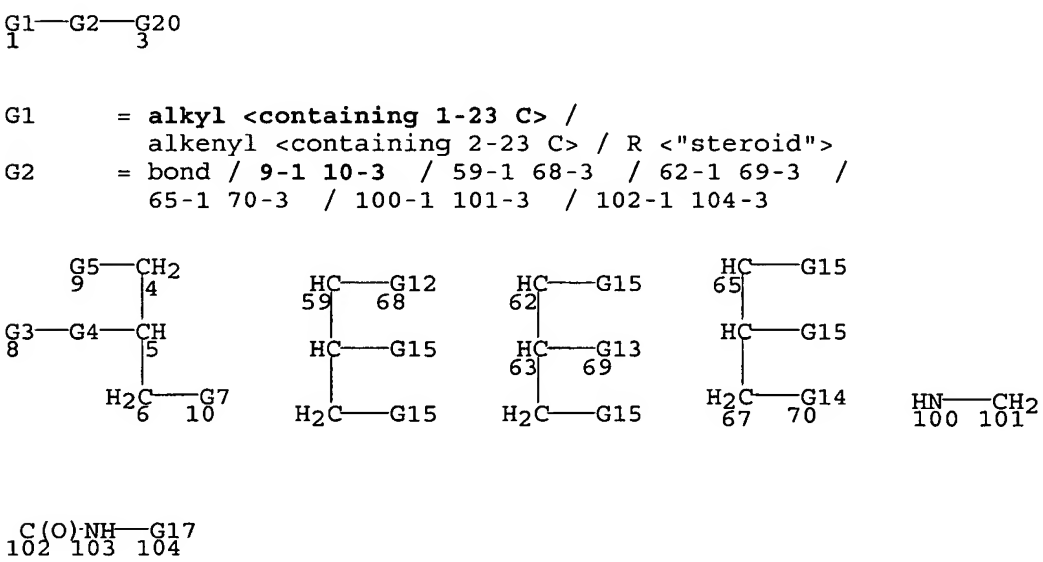
L101 ANSWER 8 OF 9 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 133:34433 MARPAT
TITLE: Reagents for intracellular delivery of macromolecules
INVENTOR(S): Gebeyehu, Gulilat; Jessee, Joel A.

PATENT ASSIGNEE(S): Life Technologies, Inc., USA
SOURCE: U.S., 21 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6075012	A	20000613	US 1994-195866	19940211
US 6989434	B1	20060124	US 1999-326106	19990604
US 2005260757	A1	20051124	US 2005-192758	20050729
PRIORITY APPLN. INFO.:			US 1994-195866	19940211
			US 1999-326106	19990604

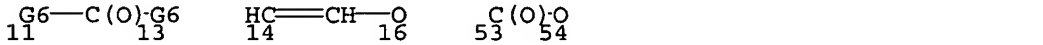
AB The present invention discloses cationic lipids and lipophilic compds. useful for making lipid aggregates for delivery of macromols. and other compds. into cells. They are especially useful for the DNA-dependent transformation of cells. Compns. of cationic lipids and viral components or non-viral fusagenic compds. useful for enhancing transfection are also described.

MSTR 1

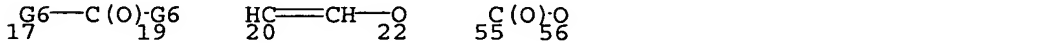


G1 = **alkyl <containing 1-23 C>** / alkenyl <containing 2-23 C> / R <"steroid">
G2 = bond / **9-1 10-3** / 59-1 68-3 / 62-1 69-3 / 65-1 70-3 / 100-1 101-3 / 102-1 104-3

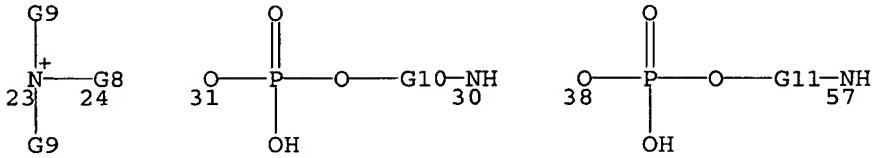
G3 = **alkyl <containing 1-23 C>** / alkenyl <containing 2-23 C> / R <"steroid">
G4 = 11-8 13-5 / **14-8 16-5** / O / 53-8 54-5

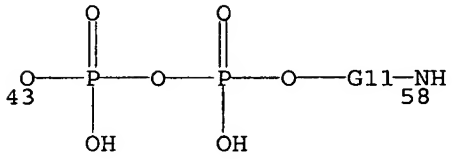


G5 = 17-1 19-4 / **20-1 22-4** / O / 55-1 56-4

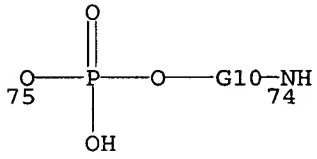


G6 = O / NH
G7 = **23-6 24-3** / 31-6 30-3 / 38-6 57-3 / 43-6 58-3

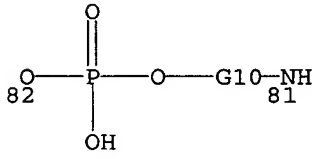




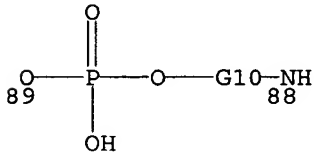
G8 = **(1-6) CH2**
G9 = alkyl <containing 1-24 C> /
alkenyl <containing 2-24 C> / aryl <containing 6-24 C> /
(Specifically claimed: Me)
G10 = (2-6) CH2
G11 = R <"inositol residue">
G12 = O / NH / 75-59 74-3



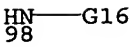
G13 = O / NH / 82-63 81-3



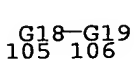
G14 = O / NH / 89-67 88-3



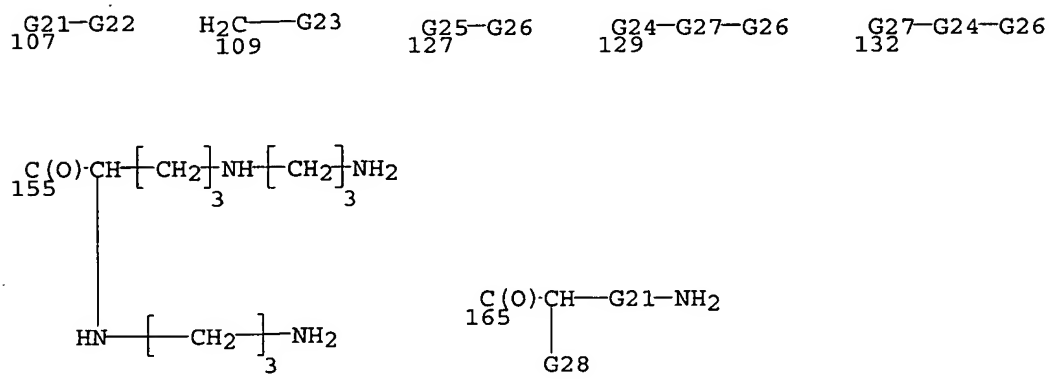
G15 = OH / 98



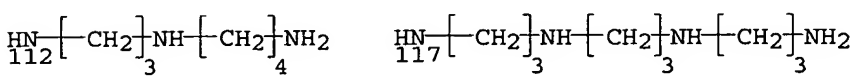
G16 = alkyl <containing 1-23 C> /
alkenyl <containing 2-23 C> / acyl
G17 = carbon chain <containing 1-24 C,
0 or more double bonds, 0 or more triple bonds> /
105-103 106-3

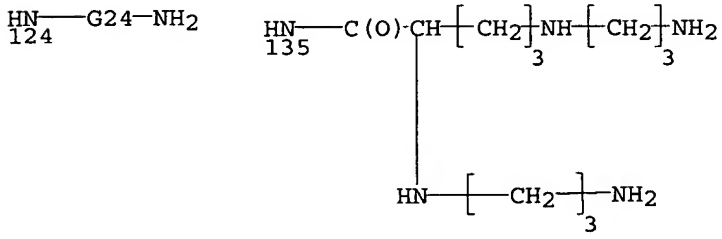


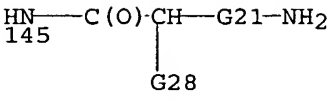
G18 = alkylene <containing 1-24 C>
G19 = O / S / C(O)
G20 = H / 107 / 109 / 127 / 129 / 132 /
R <"reporter molecule, protein, polysaccharide,
or nucleic acid binding substance"> / NH2 / F / Cl / Br / I /
155 / 165



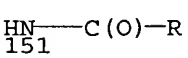
G21 = alkylene <containing 1-24 C, unbranched>
G22 = F / Cl / Br / I / NH2
G23 = 112 / 117 / 124 / 135 / 145







G24 = alkylene <containing 2-24 C, unbranched>
G25 = carbon chain <containing 1-24 C,
0 or more double bonds, no triple bonds> /
cycloalkylene <containing 3-24 C> /
arylene <containing 6-24 C> / S
G26 = Br / Cl / I / F / NH2 /
R <"polyalkyleneamine", containing 1 or more N>
G27 = O / S
G28 = NH2 / 151 / alkylamino



Patent location: claim 1
Note: substitution is restricted
Note: also incorporates broader disclosure
Note: and salts

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

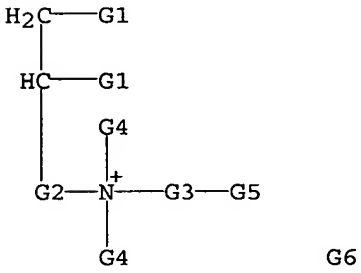
L101 ANSWER 9 OF 9 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 127:99844 MARPAT
TITLE: Complex cationic lipids as cytofectins
INVENTOR(S): Wheeler, Carl J.
PATENT ASSIGNEE(S): Vical Incorporated, USA
SOURCE: PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9719675	A2	19970605	WO 1996-US19721	19961127
WO 9719675	A3	19971002		
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2237316	AA	19970605	CA 1996-2237316	19961127
EP 863749	A2	19980916	EP 1996-943691	19961127
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000502061	T2	20000222	JP 1997-520757	19961127
PRIORITY APPLN. INFO.:			US 1995-565756	19951130
			WO 1996-US19721	19961127

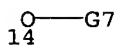
AB Cationic lipids (cytofectins) having a derivatized quaternary ammonium head group (Rosenthal phospholipase A inhibitor core structure) are provided which provide improved cell targeting ability and enhance transfective efficacy for neg. charged macromols. such as amino acids, peptides, polynucleotides, and polysaccharides. The head group is attached to an alkyl linker having functional groups that provide sites for attachment of drugs, cell receptor ligands, or other bioactive agents.

Thus, chloramphenicol acetyltransferase (CAT) DNA was coupled to (±)-N-(2-hydroxyethyl)-N,N-dimethyl-3,4-bis(lauryloxy)-1-propanaminium bromide (I) and administered intranasally to mice. The lungs were removed and extracted 2-3 days later and assayed for CAT. CAT expression was promoted by coupling to I.

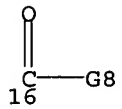
MSTR 3



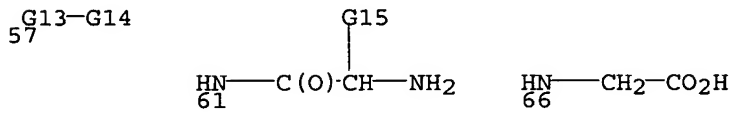
G1 = OH / **14**



G2 = **(1-6) CH2**
G3 = **(2-10) CH2**
G4 = carbon chain (opt. substd. by 1 or more G16) / 16 /
carbocycle <non-aromatic> (opt. substd. by 1 or more G9) /
heterocycle <containing 1-5 heteroatoms, non-aromatic>
(opt. substd. by 1 or more G9) /
aryl (opt. substd. by 1 or more G9) /
heteroaryl <containing 1-5 heteroatoms>
(opt. substd. by 1 or more G9) / (Example: Me)

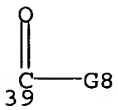


G5 = H / OH / NH2 / **57** / (Specifically claimed: 66) /
(Example: 61)



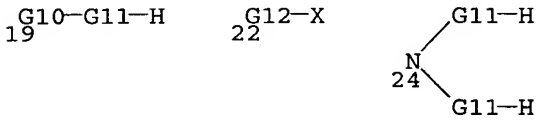
G6 = R <"pharmaceutically acceptable anion", (-1) charge>
/ (Example: bromide)
G7 = **carbon chain (opt. substd. by 1 or more G16)** / 39 /
carbocycle <non-aromatic> (opt. substd. by 1 or more G9) /
heterocycle <containing 1-5 heteroatoms, non-aromatic>
(opt. substd. by 1 or more G9) /
aryl (opt. substd. by 1 or more G9) /
heteroaryl <containing 1-5 heteroatoms>

(opt. substd. by 1 or more G9) / (Example: tetradecyl)

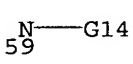


G8 = H / R / **carbon chain (opt. substd. by 1 or more G16)**

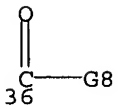
G9 = R / 19 / halo / 22 / 24



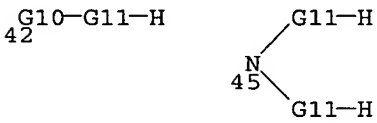
G10 = O / S
G11 = alkylene <containing 1-5 C, unbranched>
G12 = alkylene <containing 1-4 C, unbranched>
G13 = **O** / NH / 59



G14 = carbon chain (opt. substd. by 1 or more G16) / **36** /
carbocycle <non-aromatic> (opt. substd. by 1 or more G9) /
heterocycle <containing 1-5 heteroatoms, non-aromatic>
(opt. substd. by 1 or more G9) /
aryl (opt. substd. by 1 or more G9) /
heteroaryl <containing 1-5 heteroatoms>
(opt. substd. by 1 or more G9) /
(Specifically claimed: R <"bioactive molecule">)



G15 = H / CH2CH2CH2CH2NH2
G16 = R / 42 / halo / 45



Patent location: claim 7
Note: also incorporates claim 10
Note: substitution is restricted

=> d que l59
L45 QUE ABB=ON PLU=ON ?QUATERN?(3A)(?NITROGEN? OR N OR ?AM
INE? OR ?AMMONIUM? OR ?AMINIUM?)

```
L46             QUE  ABB=ON  PLU=ON  ?AMMONIUM? OR ?AMINIUM?
L47             QUE  ABB=ON  PLU=ON  ?SURFACT?
L53             QUE  ABB=ON  PLU=ON  "QUATERNARY AMMONIUM COMPOUNDS"+PFT,
                OLD,NT/CT
L54             QUE  ABB=ON  PLU=ON  POLYNUCLEOTIDES+PFT,OLD,NT/CT
L55             QUE  ABB=ON  PLU=ON  SURFACTANTS+PFT,OLD,NT/CT
L57        9191 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L53 (L) L47
L58        4672 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L55 (L) (L45 OR L46)
L59           5 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L57 OR L58) AND L54


=> d que l68
L62             QUE  ABB=ON  PLU=ON  (B10-A22 OR C10-A22)/MC
L63         413 SEA FILE=WPIX ABB=ON  PLU=ON  L62 AND ((CATION?/BIX) (10A)
                (?SURFACT?/BIX))
L64        5975 SEA FILE=WPIX ABB=ON  PLU=ON  ((?QUATERN?/BIX(3A)(?NITROGEN?/BI
                X OR N/BIX OR ?AMINE?/BIX OR ?AMMONIUM?/BIX OR ?AMINIUM?/BIX))
                OR (?AMMONIUM?/BIX OR ?AMINIUM?/BIX))(10A)(?SURFACT?/BIX)
L65         181 SEA FILE=WPIX ABB=ON  PLU=ON  L63 AND L64
L66          19 SEA FILE=WPIX ABB=ON  PLU=ON  L65 AND (?NUCLEOTID?/BIX OR
                POLYNUCLEOTID?/BIX OR OLIGONUCLEOTID?/BIX OR DINUCLEOTID?/BIX
                OR TRINUCLEOTID?/BIX OR DNA/BIX OR (?NUCLEIC?/BIX(1A)ACID/BIX)
                OR DEOXYRIBONUCLEIC/BIX OR RIBONUCLEIC/BIX)
L67             QUE  ABB=ON  PLU=ON  A61K031-08/IPC
L68           2 SEA FILE=WPIX ABB=ON  PLU=ON  L66 AND L67
```

```
=> d que l79
L45             QUE  ABB=ON  PLU=ON  ?QUATERN?(3A)(?NITROGEN? OR N OR ?AM
                INE? OR ?AMMONIUM? OR ?AMINIUM?)
L47             QUE  ABB=ON  PLU=ON  ?SURFACT?
L52             QUE  ABB=ON  PLU=ON  ?NUCLEOTID? OR POLYNUCLEOTID? OR OLI
                GONUCLEOTID? OR DINUCLEOTID? OR TRINUCLEOTID? OR DNA OR (
                ?NUCLEIC?(1A)ACID) OR DEOXYRIBONUCLEIC OR RIBONUCLEIC
L74             QUE  ABB=ON  PLU=ON  "QUATERNARY AMMONIUM COMPOUNDS"+PFT,
                OLD,NT/CT
L75         68609 SEA FILE=MEDLINE ABB=ON  PLU=ON  "SURFACE-ACTIVE AGENTS"+PFT,OL
                D,NT/CT
L76          4201 SEA FILE=MEDLINE ABB=ON  PLU=ON  L74 AND (L47 OR L75)
L77           358 SEA FILE=MEDLINE ABB=ON  PLU=ON  L76 AND L52
L78            52 SEA FILE=MEDLINE ABB=ON  PLU=ON  L45 (10A) L52
L79             3 SEA FILE=MEDLINE ABB=ON  PLU=ON  L77 AND L78


=> d que l89
L45             QUE  ABB=ON  PLU=ON  ?QUATERN?(3A)(?NITROGEN? OR N OR ?AM
                INE? OR ?AMMONIUM? OR ?AMINIUM?)
L46             QUE  ABB=ON  PLU=ON  ?AMMONIUM? OR ?AMINIUM?
L47             QUE  ABB=ON  PLU=ON  ?SURFACT?
L52             QUE  ABB=ON  PLU=ON  ?NUCLEOTID? OR POLYNUCLEOTID? OR OLI
                GONUCLEOTID? OR DINUCLEOTID? OR TRINUCLEOTID? OR DNA OR (
                ?NUCLEIC?(1A)ACID) OR DEOXYRIBONUCLEIC OR RIBONUCLEIC
L82             QUE  ABB=ON  PLU=ON  "QUATERNARY AMMONIUM DERIVATIVE"+PFT
                ,OLD,NT/CT
L83             QUE  ABB=ON  PLU=ON  SURFACTANT+PFT,OLD,NT/CT
L84           586 SEA FILE=EMBASE ABB=ON  PLU=ON  (L45 OR L46)(15A)L52
L86           121 SEA FILE=EMBASE ABB=ON  PLU=ON  L84 AND L82
L87            61 SEA FILE=EMBASE ABB=ON  PLU=ON  L86 AND (L47 OR L83)
L88           204 SEA FILE=EMBASE ABB=ON  PLU=ON  L47 (15A) L52
L89            15 SEA FILE=EMBASE ABB=ON  PLU=ON  L87 AND L88


=> d his l100

     (FILE 'BIOSIS, PASCAL, JICST-EPLUS, CABA, LIFESCI, BIOENG, BIOTECHNO,
     BIOTECHDS, DRUGU, DRUGB, VETU, VETB, SCISEARCH, CONF, CONFSCI, DISSABS'
     ENTERED AT 13:07:44 ON 14 MAR 2006)
L100            31 S L98 AND L99

=> d que l100
L45             QUE  ABB=ON  PLU=ON  ?QUATERN?(3A)(?NITROGEN? OR N OR ?AM
                INE? OR ?AMMONIUM? OR ?AMINIUM?)
L46             QUE  ABB=ON  PLU=ON  ?AMMONIUM? OR ?AMINIUM?
L47             QUE  ABB=ON  PLU=ON  ?SURFACT?
L52             QUE  ABB=ON  PLU=ON  ?NUCLEOTID? OR POLYNUCLEOTID? OR OLI
                GONUCLEOTID? OR DINUCLEOTID? OR TRINUCLEOTID? OR DNA OR (
                ?NUCLEIC?(1A)ACID) OR DEOXYRIBONUCLEIC OR RIBONUCLEIC
L95          4451 SEA (L45/TI,IT,CC,CT,ST,STP OR L46/TI,IT,CC,CT,ST,STP) AND
                L52/TI,IT,CC,CT,ST,STP
L96          2816 SEA (L45 OR L46)(10A) L52
L97           790 SEA L95 AND L96
L98            39 SEA L97 AND L47/TI,IT,CC,CT,ST,STP
L99          1772 SEA L47(15A) L52
L100           31 SEA L98 AND L99

=> dup rem l59 l68 l79 l89 l100
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PROCESSING COMPLETED FOR L68
PROCESSING COMPLETED FOR L79
PROCESSING COMPLETED FOR L89
PROCESSING COMPLETED FOR L100
L102          45 DUP REM L59 L68 L79 L89 L100 (11 DUPLICATES REMOVED)
                 ANSWERS '1-5' FROM FILE HCAPLUS
                 ANSWER '6' FROM FILE WPIX
                 ANSWERS '7-9' FROM FILE MEDLINE
                 ANSWERS '10-24' FROM FILE EMBASE
                 ANSWERS '25-27' FROM FILE BIOSIS
                 ANSWERS '28-29' FROM FILE PASCAL
                 ANSWER '30' FROM FILE LIFESCI
                 ANSWER '31' FROM FILE BIOTECHNO
                 ANSWERS '32-45' FROM FILE SCISEARCH

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L102 ANSWER 1 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2004:589411 HCAPLUS
DOCUMENT NUMBER: 141:128864
TITLE: Method for producing sterile polynucleotide-based medicaments
INVENTOR(S): Geall, Andrew; Enas, Joel
PATENT ASSIGNEE(S): Vical Incorporated, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060363	A1	20040722	WO 2003-US38119	20031202
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2508281	AA	20040722	CA 2003-2508281	20031202
AU 2003293196	A1	20040729	AU 2003-293196	20031202
US 2004162256	A1	20040819	US 2003-725015	20031202
EP 1581201	A1	20051005	EP 2003-790187	20031202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.: US 2002-435303P P 20021223
WO 2003-US38119 W 20031202

ED Entered STN: 23 Jul 2004
AB The present invention relates to a novel method for producing formulations comprising a polynucleotide, block copolymer and cationic surfactant. The formulations produced by the current method are suitable for use in polynucleotide-based medicaments. A suitable method of production disclosed herein addnl. comprises cold filtering a mixture of a polynucleotide, block copolymer and cationic surfactant, thereby sterilizing the formulation. The method of the present invention also eliminates the need for thermal cycling of the formulation, thereby reducing the time and expense required to produce large quantities of a formulation during com. manufacturing The present invention also relates to novel cationic lipids used as surfactants. For example, a naked VR4700 plasmid DNA (5 mg/mL) in PBS was formulated with poloxamer CRL-1005 (7.5 mg/mL) and benzalkonium chloride (0.3 mM), using the thermal cycling and filtration process. Particle size of the diluted poloxamer formulation were maintained by thawing the formulation as a concentrated stock solution and then diluting to the required concentration
A dose-dependent responses of CD4+ and CD8+T cells of mice vaccinated with increasing amts. of naked VR4700 plasmid DNA or VR4700 formulated with

CRL-1005 and benzalkonium chloride was observed
IC ICM A61K031-08
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 15
IT **Quaternary ammonium compounds, biological studies**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(alkylbenzyldimethyl, chlorides; production of sterile formulations containing
polynucleotide, block copolymer and cationic **surfactant**)
IT DNA
Polynucleotides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(production of sterile formulations containing polynucleotide, block copolymer
and cationic surfactant)
IT **121-54-0**, Benzethonium chloride 123-03-5, Cetylpyridinium chloride **8044-71-1**, Cetrimide 106392-12-5, CRL 1005 723301-92-6 723301-93-7 723301-94-8 723301-95-9
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(production of sterile formulations containing polynucleotide, block copolymer
and cationic **surfactant**)

L102 ANSWER 2 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:589334 HCAPLUS
DOCUMENT NUMBER: 141:128852
TITLE: Method for freeze-drying nucleic acid/block copolymer/cationic surfactant complexes
INVENTOR(S): Geall, Andrew
PATENT ASSIGNEE(S): Vical Incorporated, USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060059	A2	20040722	WO 2003-US38116	20031202
WO 2004060059	A3	20051222		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2508279	AA	20040722	CA 2003-2508279	20031202
US 2004157789	A1	20040812	US 2003-725009	20031202
EP 1578193	A2	20050928	EP 2003-790186	20031202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.: US 2002-435273P P 20021223
WO 2003-US38116 W 20031202

ED Entered STN: 23 Jul 2004
AB This invention relates generally to the freeze-drying of formulations

comprising a polynucleotide, a block copolymer and a cationic surfactant. In the presence of a cryoprotectant or bulking agent, a formulation can be freeze-dried, whereby upon reconstitution of the dried formulation, the microparticles maintain their optimal size and aggregation or fusion is avoided. For example, a DNA/poloxamer/benzalkonium chloride (BAK) formulation (5 mg/mL DNA, 7.5 mg/ mL CRL-1005, 0.3 mM BAK) in 10% sucrose and 10 mM sodium phosphate vehicle was prepared and lyophilized.

IC ICM A01N

CC 63-6 (Pharmaceuticals)

IT **Quaternary ammonium compounds, biological studies**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(alkylbenzyldimethyl, chlorides; freeze drying of nucleic acid/block copolymer/cationic **surfactant** complexes for microparticles)

IT DNA
Nucleic acids
Polynucleotides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(freeze drying of nucleic acid/block copolymer/cationic surfactant complexes for microparticles)

IT 57-50-1, Sucrose, biological studies **121-54-0**, Benzethonium chloride 123-03-5, Cetylpyridinium chloride **8044-71-1**, Cetrimide 29368-49-8 106392-12-5, CRL-1005 723301-92-6 723301-93-7 723301-94-8 723301-95-9
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(freeze drying of nucleic acid/block copolymer/cationic **surfactant** complexes for microparticles)

L102 ANSWER 3 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:118700 HCAPLUS
DOCUMENT NUMBER: 138:132135
TITLE: Use of quaternary ammonium salts to modify base-pairing properties in the purification of polyadenylated mRNA
INVENTOR(S): Conrad, Richard C.
PATENT ASSIGNEE(S): Ambion Inc., USA
SOURCE: Brit. UK Pat. Appl., 39 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2378445	A1	20030212	GB 2002-10156	20020502
GB 2378445	B2	20050406		
US 6812341	B2	20041102	US 2001-854412	20010511
US 2004230048	A1	20041118		

PRIORITY APPLN. INFO.: US 2001-854412 A 20010511
ED Entered STN: 14 Feb 2003
AB A method of improving the purification of polyadenylated mRNA by affinity capture in the presence of rRNA is described. The method uses the quaternary ammonium compds. tetramethylammonium chloride or tetraethylammonium chloride as isostabilizing agents to lower the difference in stability of G-C and A-T hydrogen bonds. The mRNA can then be captured with oligo(dT) or oligo(U) affinity ligands bound to a support and non-specifically bound rRNA can be eluted by washing at low ionic strength. Detailed exptl. protocols and optimization expts. are described.
IC ICM C12N015-10

CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 9
IT **Detergents**
(in mRNA isolation medium; use of **quaternary ammonium** salts to modify base-pairing properties in purification of polyadenylated mRNA)
IT 9022-16-6 **25086-81-1D**, Thymidylic acid polymer, immobilized
27416-86-0, Poly(U) **27416-86-0D**, Poly(U), immobilized
RL: DEV (Device component use); USES (Uses)
(mRNA isolation using; use of quaternary ammonium salts to modify base-pairing properties in purification of polyadenylated mRNA)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bloch				US 5866429	HCAPLUS
Prakash				US 5395753	HCAPLUS
Sambrook, J	1989		7.26	Molecular Cloning:A	
Transgenomic Inc				WO 0181566 A2	HCAPLUS
Wolin				US 5459253	HCAPLUS
Wood				US 5654147	HCAPLUS

L102 ANSWER 4 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:676122 HCAPLUS
DOCUMENT NUMBER: 137:224565
TITLE: Functionalized cubic liquid crystalline phase materials that have properties tailored to specific use and methods for their preparation
INVENTOR(S): Lynch, Matthew L.; Spicer, Patrick Thomas
PATENT ASSIGNEE(S): The Procter & Gamble Company, USA
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002068562	A2	20020906	WO 2002-US4839	20020220
WO 2002068562	C2	20021114		
WO 2002068562	C1	20031224		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002153509	A1	20021024	US 2002-75551	20020214
US 6936187	B2	20050830		
CA 2435291	AA	20020906	CA 2002-2435291	20020220
EP 1370625	A1	20031217	EP 2002-706322	20020220
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1514868	A	20040721	CN 2002-805150	20020220
JP 2004527606	T2	20040909	JP 2002-568659	20020220

PRIORITY APPLN. INFO.: US 2001-270307P P 20010221
WO 2002-US4839 W 20020220

OTHER SOURCE(S): MARPAT 137:224565
ED Entered STN: 08 Sep 2002
AB Disclosed is a cubic liquid crystalline phase precursor characterized by: (A) an amphiphile capable of forming a cubic liquid crystalline phase, (B) an optional solvent, (C) an additive selected from the group consisting of an anchor, a tether, and combinations thereof, and characterized in that (A), (B), and (C) are present in mass fractions relative to each other such that 1.0 = a + b + c where a, b, and c are the mass fractions of (A), (B), and (C), resp., and further characterized in that 1.0 > a > 0, 1.0 > b > 0, 1.0 > c > 0; and with the proviso that a, b, and c do not fall within a cubic liquid crystalline phase region on a phase diagram representing phase behavior of (A), (B), and (C).
IC ICM C09K019-00
CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 17, 46, 62, 63
IT Glycoproteins
Glycosaminoglycans, uses
Lipoproteins
Peptides, uses
Polyamides, uses
Polyamines
Polycarbonates, uses
Polyesters, uses
Polynucleotides
Polysaccharides, uses
Polysiloxanes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(cubic liquid crystalline phase precursor including tether of)
IT Amino acids, uses
Quaternary ammonium compounds, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**surfactants**; cubic liquid crystalline phase precursor including anchor of)

L102 ANSWER 5 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:10648 HCAPLUS
DOCUMENT NUMBER: 136:74556
TITLE: Polynucleotide vaccine adjuvants and formulations containing cationic surfactants, and methods of use
INVENTOR(S): Evans, Robert K.
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 83 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002000844	A2	20020103	WO 2001-US20200	20010622
WO 2002000844	A3	20030612		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,

VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2411167	AA	20020103	CA 2001-2411167	20010622
AU 2001070147	A5	20020108	AU 2001-70147	20010622
EP 1335953	A2	20030820	EP 2001-948699	20010622
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004536017	T2	20041202	JP 2002-505960	20010622
PRIORITY APPLN. INFO.:			US 2000-213622P P	20000623
			US 2000-214824P P	20000628
			WO 2001-US20200 W	20010622

ED Entered STN: 04 Jan 2002

AB Improved polynucleotide vaccine adjuvants and related polynucleotide vaccine formulations are disclosed which are useful in prophylactic or therapeutic vaccine and/or gene therapy-based applications. These adjuvants comprise a block copolymer, i.e., CRL 1005, and a cationic surfactant component, selected from benzalkonium chloride (BAK), benzethonium chloride, cetramide, cetylpyridonium chloride, and cetyl trimethylammonium chloride. The inclusion of a cationic surfactant results in an increased percentage of polynucleotide that is phys. associated with the adjuvant in vitro, resulting in enhanced in vivo immune responses to polynucleotide vaccines. For example, the immune response induced by DNA/BAK formulations containing CRL 1005 in monkeys was stronger and appeared earlier than the immune response induced by DNA/BAK formulations lacking CRL 1005 or by DNA/CRL 1005 formulations lacking BAK. Also, DNA/BAK/CRL 1005 formulations were more effective than DNA in PBS at priming the immune response for adenovirus boost in monkeys.

IC ICM C12N

CC 63-3 (Pharmaceuticals)
Section cross-reference(s): 3, 15

IT **Quaternary ammonium compounds, biological studies**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(alkylbenzyldimethyl, chlorides; polynucleotide vaccine adjuvants containing block copolymer and cationic **surfactants**)

IT DNA
Polynucleotides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polynucleotide vaccine adjuvants containing block copolymer and cationic surfactants)

IT **112-02-7**, Cetyl trimethylammonium chloride **121-54-0**, Benzethonium chloride 123-03-5, Cetylpyridinium chloride 8017-49-0, Cetramide 106392-12-5, CRL 1005
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polynucleotide vaccine adjuvants containing block copolymer and cationic **surfactants**)

=> d iall abeq tech abex 6
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, LIFESCI, BIOTECHNO, SCISEARCH' - CONTINUE? (Y)/N:y

L102 ANSWER 6 OF 45 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2000-256138 [22] WPIX
DOC. NO. CPI: C2000-078104
TITLE: Treatment of skin ailments e.g. burns, lesions, warts and

ulcers, by application of film forming composition.
DERWENT CLASS: B05
INVENTOR(S): BETTLE, G; COURY, W S; PETTERSSON, B I
PATENT ASSIGNEE(S): (AMME-N) AMERICAN MEDICAL RES INC
COUNTRY COUNT: 86
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2000000186	A1	20000106	(200022)*	EN	46	A61K031-08<--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW						
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW						
AU 9950871	A	20000117	(200026)			
US 6645510	B1	20031111	(200382)			A61K006-00

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000000186	A1	WO 1999-US14907	19990630
AU 9950871	A	AU 1999-50871	19990630
US 6645510	B1 Provisional	US 1998-91234P	19980630
		WO 1999-US14907	19990630
		US 2001-787547	20010830

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9950871	A Based on	WO 2000000186
US 6645510	B1 Based on	WO 2000000186

PRIORITY APPLN. INFO: US 1998-91234P 19980630; US 2001-787547 20010830
INT. PATENT CLASSIF.:
MAIN: A61K006-00; **A61K031-08**
SECONDARY: A61K007-00; A61K031-045; A61K031-075; A61K031-14; A61K031-23; A61K031-40; A61K035-64

BASIC ABSTRACT:
WO 200000186 A UPAB: 20000508
NOVELTY - A method of treating skin ailments comprises application of a composition capable of forming a film which bonds ionically to the skin and comprises an active agent, a nonionic film forming component, **cationic surfactants** soluble in the film forming component and a liquid carrier.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(i) a method of treating skin ailments comprising application of a composition comprising **quaternary ammonium** compounds, **surfactants**, fatty esters, fatty alcohols and optionally highly polar compounds in which the ratio of **quaternary ammonium** compounds, **surfactants** and optionally highly polar compounds to fatty esters and alcohols is 0.8-1.2; and

(ii) a method of treating skin ailments comprising application of an emulsion composition comprising a fatty phase (comprising fatty acids, glycerides and optionally other fatty components in which the ratio of

fatty acids to other components is 0.5 to 3.5).
ACTIVITY - Dermatological; Vulnerary; Virucide; Antiulcer.
USE - The method provides a topical means of treating skin ailments, e.g. burns, skin lesions, warts and ulcers.
Dwg.0/1

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B04-A08; B04-B01B; B04-B01C1; B04-B01C2; B04-B04M; B05-A01B; B06-E05; B07-A02B; B07-D09; B09-B; **B10-A22**; B10-B02; B10-B02C; B10-B03B; B10-B04B; B10-C02; B10-C04E; B10-E04C; B10-E04D; B14-A02; B14-E08; B14-N17A; B14-N17B

TECH UPTX: 20000508
TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: The film forming component comprises waxes (preferably natural or synthetic bees wax), propolis, a 10-26C fatty acid and a 10-26C fatty alcohol and may include a monoester monoglyceride. It may also comprise an adduct of a nitrogenous organic base (preferably triethanolamine) and a fatty acid (preferably stearic acid, conjugated linolenic acid, alpha-linolenic acid, gamma-linolenic acid, dihomo-gamma-linolenic acid, docosahexaenoic acid or eicosapentaenoic acid). The **surfactant** comprises an **ammonium** compound substituted with lower alkyl moieties and 16-22C fatty moieties, especially dimethyl distearyl ammonium chloride. The composition may also include a partitioning agent, preferably 0.1-3.0% of a nonionic polyethoxylated fatty ether of alcohol. The composition is a phase stable emulsion comprising **quaternary ammonium** compounds, **surfactants**, fatty esters, fatty alcohols and highly polar compounds in which the ratio of **quaternary ammonium** compounds, **surfactants** and optionally highly polar compounds to fatty esters and alcohols is 0.8-1.2. The composition may also be an emulsion for delivering medicinal agents to the surface of the skin comprising a fatty phase (comprising fatty acids and optionally glycerides and other fatty components in which the ratio of fatty acids to other components is 0.5-5.5, (preferably 2.0)) and active agents. The composition has a pH of 6.5-8.5, especially 7.1-7.8. The active agent preferably comprises 0.01-5% of an alkylglycerol, an alkoxyglycerol, a polyunsaturated fatty acid or oil, a fat soluble vitamin, a sulfur compound, a mineral, an antioxidant, an amino acid, an energy stimulator, steroidal or glycoprotein hormones and/or other healing agents (glycyrrhizic **acid**, **ribonucleic acids**, aloe vera, allantoin, bioperine, berberine hydrochloride, colostrum, dexpanthenol, glucosamine salts, inisitol, phytantriol, pyrrolidine carboxylic acid, jojoba oil, symphytum officinal, polsorbate 80 or vanilla extract).

ABEX UPTX: 20000508
EXAMPLE - An aqueous phase was prepared by mixing water (63.14%), Merquat 550 polyquaternium-7 (1.15%), dimethyl distearyl ammonium chloride (1.3%), berberine hydrochloride (0.013%) and active agents (4.75%) at 70degreesC until creamy and uniform. A fatty phase was prepared by mixing stearic acid (3.75%), cetyl alcohol (2.955%), lauricidin (3.15%), propolis (0.4%), crude bees wax (1%) and other active agents (3.45%) at 70degreesC and lemon oil (0.5%) was added. The fatty phase was added to the aqueous phase and mixing continued at 70degreesC until homogenous. A mixture of water (3%), TEA (1.54%) and tetra sodium EDTA (0.3%) was added under high shear agitation to form an emulsion and the mixture was cooled to 50degreesC. Processing aids (4.53%) and other active agents (2.5%) were added and the pH was adjusted to 7.4 with citric acid.

=> d bib ed ab hitind 7-45

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, LIFESCI, BIOTECHNO, SCISEARCH' - CONTINUE? (Y)/N:y

L102 ANSWER 7 OF 45 MEDLINE on STN
AN 96088520 MEDLINE
DN PubMed ID: 7592110
TI Resistance to **quaternary ammonium** compounds in Staphylococcus spp. isolated from the food industry and **nucleotide** sequence of the resistance plasmid pST827.
AU Heir E; Sundheim G; Holck A L
CS MATFORSK, Norwegian Food Research Institute, As.
SO The Journal of applied bacteriology, (1995 Aug) Vol. 79, No. 2, pp. 149-56.
Journal code: 7503050. ISSN: 0021-8847.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-Z37964
EM 199512
ED Entered STN: 19960124
Last Updated on STN: 19960822
Entered Medline: 19951214
ED Entered STN: 19960124
Last Updated on STN: 19960822
Entered Medline: 19951214
AB The complete **nucleotide** sequence of the 2.8 kb plasmid pST827 involved in resistance to the quaternary ammonium compound (QAC) benzalkonium chloride in meat-associated staphylococci was determined. An open reading frame (ORF) similar to the QAC resistance genes qacC, ebr and smr previously reported from clinical staphylococcal strains was identified (qacC'). In addition an ORF coding for a protein (Rep827) showing extensive homology to reported replication proteins of Gram-positive organisms was found. The occurrence of known QAC resistance gene (qacA-C) among staphylococcal strains isolated from food processing plants was studied by hybridization analysis. Of 191 isolates, 25 were resistant to benzalkonium chloride. Five of these gave no hybridization signals to probes specific for qacA-C. Further hybridization analysis indicated that pST827 or closely related plasmids are widespread among QAC-resistant staphylococcal strains. The finding of resistant staphylococci in different areas of the food processing industry indicates that QAC resistance is a potential problem in the food processing industry.
CT Amino Acid Sequence
*Antiporters
Bacterial Proteins: GE, genetics
Base Sequence
***Benzalkonium Compounds: PD, pharmacology**
Blotting, Southern
*Carrier Proteins: GE, genetics
DNA, Bacterial: AN, analysis
Drug Resistance, Microbial
Ethidium: PD, pharmacology
*Food Microbiology
*Membrane Proteins: GE, genetics
*Membrane Transport Proteins
Molecular Sequence Data
Plasmids: AN, analysis

*R Factors: GE, genetics
R Factors: IP, isolation & purification
Replication Origin: GE, genetics
*Staphylococcus: DE, drug effects
Staphylococcus: GE, genetics
Staphylococcus: IP, isolation & purification
RN 134773-66-3 (qacA protein, Staphylococcus aureus); 147995-06-0 (EmrE protein, E coli); 3546-21-2 (Ethidium)
CN 0 (Antiporters); 0 (Bacterial Proteins); 0 (Benzalkonium Compounds); 0 (Carrier Proteins); 0 (**DNA**, Bacterial); 0 (Membrane Proteins); 0 (Membrane Transport Proteins); 0 (Plasmids); 0 (R Factors)

L102 ANSWER 8 OF 45 MEDLINE on STN
AN 90001279 MEDLINE
DN PubMed ID: 2790044
TI Use of a **quaternary ammonium** detergent in liposome mediated **DNA** transfection of mouse L-cells.
AU Pinnaduwage P; Schmitt L; Huang L
CS Department of Biochemistry, University of Tennessee, Knoxville 37996-0840.
NC AI 25834 (NIAID)
CA 224553 (NCI)
CA 24553 (NCI)
SO Biochimica et biophysica acta, (1989 Oct 2) Vol. 985, No. 1, pp. 33-7.
Journal code: 0217513. ISSN: 0006-3002.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198911
ED Entered STN: 19900328
Last Updated on STN: 19980206
Entered Medline: 19891115
ED Entered STN: 19900328
Last Updated on STN: 19980206
Entered Medline: 19891115
AB Sonicated liposomes composed of dioleoylphosphatidylethanolamine (DOPE) and a quaternary ammonium detergent (dodecyl-, tetradecyl-, or cetyl-trimethylammonium bromide) mediates functional transfer of pSV2 CAT plasmid **DNA** to mouse L929 fibroblasts. Successful transfection was determined by assaying for chloramphenicol acetyltransferase activity in cell lysates collected 40 h after exposure to the lipid-**DNA** complexes. Liposomes prepared with the quaternary ammonium detergents were less toxic than the free detergents at the same concentrations and were more efficient in their delivery of the plasmid **DNA** to the cells. Analysis of the three detergents in combination with the lipid showed that cetyltrimethylammonium bromide was least toxic to the cells. This detergent, at a minimal concentration of 20 mol% in DOPE, allowed for stable liposome preparations and efficient transfection. Optimal efficiency of transfection occurred with 30 micrograms of **DNA**. Further increases in the **DNA** concentration caused a decrease in the transfection efficiency, perhaps due to charge repulsions between the liposomes now saturated with negatively charged **DNA** and the negatively charged cell surface. The transfection activity of the liposome was limited by its cytotoxicity at high liposome concentrations. These results are compared with that of the Lipofectin, another positively charged liposome preparation which is commercially available. Although the overall transfection activity of the liposome containing the quaternary ammonium detergent is somewhat lower than that of the Lipofectin, it may serve as an inexpensive and convenient alternative.
CT Animals

Cells, Cultured
Chloramphenicol O-Acetyltransferase: ME, metabolism
***DNA: GE, genetics**
***Detergents**
*Gene Expression
L Cells (Cell Line): EN, enzymology
*Liposomes: ME, metabolism
Mice
Phosphatidylethanolamines: ME, metabolism
Plasmids
***Quaternary Ammonium Compounds: PD, pharmacology**
Research Support, U.S. Gov't, P.H.S.
***Surface-Active Agents**
*Transfection
RN 76391-83-8 (1,2-dielaidoylphosphatidylethanolamine); **9007-49-2 (DNA)**
CN 0 (Detergents); 0 (Liposomes); 0 (Phosphatidylethanolamines); 0 (Plasmids); 0 (Quaternary Ammonium Compounds); 0 (Surface-Active Agents); EC 2.3.1.28 (Chloramphenicol O-Acetyltransferase)

L102 ANSWER 9 OF 45 MEDLINE on STN
AN 87000888 MEDLINE
DN PubMed ID: 3756306
TI Displacement of sodium ions by **surfactant** ions from **DNA**. A 23Na-NMR investigation.
AU Delville A; Laszlo P; Schyns R
SO Biophysical chemistry, (1986 Jul) Vol. 24, No. 2, pp. 121-33. Journal code: 0403171. ISSN: 0301-4622.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198611
ED Entered STN: 19900302
Last Updated on STN: 19970203
Entered Medline: 19861120
ED Entered STN: 19900302
Last Updated on STN: 19970203
Entered Medline: 19861120
AB 23Na-NMR probes the ionic composition in the immediate vicinity of the **DNA** molecule, in the presence of a series of **quaternary ammonium** bromides, of varying hydrocarbon chain length. The 23Na-NMR line shows two Lorentzian components, in accordance with quadrupolar relaxation theory for S = 3/2 nuclei under slow modulation. Deconvolution of the observed lineshape provides, in a reliable manner, the relative fraction of sodium counterions neutralizing the phosphate sites on **DNA.** This quantity (p B chi 2) serves as an index of the relative affinities of various **surfactant** ions toward **DNA**, Na+ being the reference cation. The results are consistent with site binding of detergent ions to the **nucleic acid**, an interaction dominated by hydrophobic forces.
CT Animals
Cations
Cattle
***DNA**
Kinetics
Magnetic Resonance Spectroscopy: MT, methods
***Quaternary Ammonium Compounds**
Research Support, Non-U.S. Gov't
*Sodium

Structure-Activity Relationship
***Surface-Active Agents**
Thymus Gland
RN 7440-23-5 (Sodium); **9007-49-2 (DNA)**
CN 0 (Cations); 0 (Quaternary Ammonium Compounds); 0 (Surface-Active Agents)

L102 ANSWER 10 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 1
AN 2005376898 EMBASE
TI Electrophoretic properties of complexes between **DNA** and the cationic **surfactant cetyltrimethylammonium** bromide.
AU Dias R.S.; Svingen R.; Gustavsson B.; Lindman B.; Miguel M.G.; Akerman B.
CS Prof. B. Akerman, Department of Chemistry and Bioscience, Chalmers University of Technology, S-142 96 Goteborg, Portugal.
baa@chembio.chalmers.se
SO Electrophoresis, (2005) Vol. 26, No. 15, pp. 2908-2917. .
Refs: 37
ISSN: 0173-0835 CODEN: ELCTDN
CY Germany
DT Journal; Article
FS 022 Human Genetics
029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 20050915
Last Updated on STN: 20050915
ED Entered STN: 20050915
Last Updated on STN: 20050915
AB We use agarose gel electrophoresis to characterize how the monovalent catioinic **surfactant cetyltrimethylammonium** bromide (CTAB) compacts double-stranded **DNA**, which is detected as a reduction in electrophoretic **DNA** velocity. The velocity reaches a plateau at a ratio R = 1.8 of CTAB to DNA-phosphate charges, i.e., above the neutralization point, and the complexes retain a net negative charge at least up to R = 200. Condensation experiments on a mixture of two DNA sizes show that the complexes formed contain only one condensed DNA molecule each. These CTAB-DNA globules were further characterized by time-resolved measurements of their velocity inside the gel, which showed that CTAB does not dissociate during the migration but possibly upon entry into the gel. Using the Ogston-model for electrophoresis of spherical particles, the measured in-gel velocity of the globule is quantitatively consistent with CTAB having two opposite effects, reduction of both the electrophoretic charge and DNA coll size. In the case of CTAB the two effects nearly cancel, which can explain why opposite velocity shifts (globule faster than uncomplexed DNA) have been observed with some catioinic condensation agents. Dissociation of the complexes by addition of anionic **surfactants** was also studied. The **DNA** release from the globule was complete at a mixing ratio between anionic and cationic **surfactants** equal to 1, in agreement with equilibrium studies. Circular DNA retained its supercoiling, and this demonstrates a lack of DNA nicking in the compaction-release cycle which is important in DNA transfection and purification applications. .COPYRGT. 2005 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim.
CT Medical Descriptors:
*agar gel electrophoresis
complex formation
DNA determination
velocity
serodiagnosis
polymerization

experimental design
statistical model
particle size
quantitative analysis
reduction kinetics
DNA supercoiling
DNA transfection
DNA purification
controlled study
article
Drug Descriptors:
***cetrimide**
*double stranded DNA: EC, endogenous compound
cationic surfactant
monovalent cation
phosphate: EC, endogenous compound
anionic surfactant
circular DNA: EC, endogenous compound
RN (cetrimide) 57-09-0, 6899-10-1, 8044-71-1; (phosphate) 14066-19-4, 14265-44-2

L102 ANSWER 11 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 3
AN 2004384256 EMBASE
TI Phase behavior of **DNA** in the presence of **cetyltrimethylammonium** bromide/alkyl polyglucoside **surfactant** mixture.
AU Jing D.; Zhang J.; Ma L.; Zhang G.
CS G. Zhang, Natl. Ctr. Surfact. Res./Chem. Eng., Res. Inst. of Daily Chemical Indust., 030001 Taiyuan, China. jingdengwei@yahoo.com.cn
SO Colloid and Polymer Science, (2004) Vol. 282, No. 10, pp. 1089-1096. .
Refs: 39
ISSN: 0303-402X CODEN: CPMSB6
CY Germany
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 20040924
Last Updated on STN: 20040924
ED Entered STN: 20040924
Last Updated on STN: 20040924
AB Interaction of DNA with a CTAB/APG mixture was studied by determining its phase behavior. Results showed that, at low DNA concentration, the addition of APG could lead to earlier turbidity, indicating that APG can strengthen the interaction between CTAB and DNA. At high DNA concentration, however, APG had little influence on the turbidity boundary. We found that addition of salt could also lead to such an asymmetry of the phase map. Two mechanisms were presented to account for the asymmetry of the phase behavior. At the lower **DNA** concentration, it was assumed that the **surfactant** was bound to **DNA** in a way similar to that of micelle formation. That is, the binding is dominated by hydrophobic association processes. APG can facilitate this process by forming a **surfactant** mixture with CTAB, and salt facilitates this process by "salting out" effects. At high **DNA** concentrations, **surfactants** bind to **DNA** mainly through random electrostatic interaction. Addition of salt screens this interaction and therefore delays the turbidity. APG, however, exerts little influence on this process. Viscosity measurements at low DNA concentration showed that the complex with APG is more compact than that

of CTAB alone with DNA. .COPYRGT. Springer-Verlag 2004.
CT Medical Descriptors:
physical phase
chemical interaction
chemical parameters
concentration (parameters)
turbidity
DNA binding
micellization
hydrophobicity
electricity
viscosity
controlled study
article
priority journal
Drug Descriptors:
*DNA
***cetrimide**
*glucoside
surfactant
sodium chloride
RN (DNA) 9007-49-2; (cetrimide) 57-09-0, 6899-10-1, 8044-71-1; (glucoside) 50986-29-3; (sodium chloride) 7647-14-5

L102 ANSWER 12 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 5
AN 2004083099 EMBASE
TI Study on the interaction between **nucleic acids** and cationic **surfactants.**
AU Liu R.; Yang J.; Sun C.; Wu X.; Li L.; Su B.
CS J. Yang, Key Lab. Colloid and Interface Chem., Shandong University, Sch. of Chem. and Chem. Engineering, Jinan 250100, China. yjh@sdu.edu.cn
SO Colloids and Surfaces B: Biointerfaces, (1 Mar 2004) Vol. 34, No. 1, pp. 59-63. .
Refs: 31
ISSN: 0927-7765 CODEN: CSBBEQ
CY Netherlands
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 20040311
Last Updated on STN: 20040311
ED Entered STN: 20040311
Last Updated on STN: 20040311
AB The interactions of **nucleic acids** and cationic **surfactants** (cetylpyridine bromide (CPB) and **cetyltrimethylammonium** bromide (CTMAB)) in aqueous solution have been studied using the techniques of resonance light scattering (RLS) spectroscopy, the absorption spectroscopy, zeta potential assay and NMR assignment measurement. It is considered that CPB or CTMAB can assemble on the surface of nucleic acid via electrostatic and hydrophobic forces, which results in the formation of large associate of **nucleic acid**-cationic **surfactant** and RLS enhancement of **nucleic acid.** Besides these forces, the π-π stacking force between CPB and nucleic acid also exists in the associate. In comparison with CTMAB, CPB has larger enhancement on RLS of nucleic acid, which is attributed to that the enhancement of the former is only due to the absorption of the bases of nucleic acid, while the enhancement of the latter is own to the synergetic resonance caused by the absorption

of both bases of nucleic acid and the pyridyl in CPB. These results have important implication for understanding the influence of **surfactants** on **nucleic acid** functionality in life science. .COPYRGT. 2003 Elsevier B.V. All rights reserved.

CT Medical Descriptors:
*molecular interaction
*light scattering
aqueous solution
Raman spectrometry
absorption spectroscopy
zeta potential
nuclear magnetic resonance spectroscopy
protein assembly
electric activity
hydrophobicity
protein function
article
priority journal
Drug Descriptors:
*nucleic acid
***cationic surfactant**
cetylpyridinium salt
cetrimide

RN (cetylpyridinium salt) 123-03-5, 140-72-7, 2349-55-5, 7773-52-6; (cetrimide) 57-09-0, 6899-10-1, 8044-71-1

L102 ANSWER 13 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 6

AN 1999158529 EMBASE

TI Energetic and binding properties of **DNA** upon interaction with dodecyl **trimethylammonium** bromide.

AU Bathaie S.Z.; Moosavi-Movahedi A.A.; Saboury A.A.

CS A.A. Moosavi-Movahedi, Institute of Biochemistry Biophysics, University of Tehran, Tehran, Iran (Islamic Republic of). moosavi@ibb.ut.ac.ir

SO Nucleic Acids Research, (15 Feb 1999) Vol. 27, No. 4, pp. 1001-1005. .
Refs: 45
ISSN: 0305-1048 CODEN: NARHAD

CY United Kingdom

DT Journal; Article

FS 029 Clinical Biochemistry

LA English

SL English

ED Entered STN: 19990520
Last Updated on STN: 19990520

ED Entered STN: 19990520
Last Updated on STN: 19990520

AB The interaction of dodecyl **trimethylammonium** bromide (DTAB), a cationic **surfactant**, with calf thymus **DNA** has been studied by various methods, including potentiometric technique using DTAB-selective plastic membrane electrode at 27 and 37°C, isothermal titration microcalorimetry and UV spectrophotometry at 27°C using 0.05 M Tris buffer and 0.01 M NaCl at pH 7.4. The free energy is calculated from binding isotherms on the basis of Wyman binding potential theory and the enthalpy of binding according to van't Hoff relation. The enthalpy of unfolding has been determined by subtraction of the enthalpy of binding from the microcalorimetric enthalpy. The results show that, after the interaction of first DTAB molecule to DNA (base molarity) through the electrostatic interaction, the second DTAB molecule also binds to DNA through electrostatic interaction. At this stage, the predominant DNA conformational change occurs. Afterwards up to 20 DTAB

molecules, below the critical micelle concentration of DTAB, bind through hydrophobic interactions.

CT Medical Descriptors:
*DNA binding
*microcalorimetry
thymus
cattle
potentiometry
membrane
electrode
titrimetry
ultraviolet spectrophotometry
energy
enthalpy
molecular interaction
conformational transition
DNA conformation
hydrophobicity
article
priority journal
Drug Descriptors:
***dodecyltrimethylammonium bromide**
cationic surfactant
plastic

RN (dodecyltrimethylammonium bromide) 1119-94-4

L102 ANSWER 14 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 7

AN 1998278787 EMBASE

TI Capillary electrophoretic study of the complex formation between **DNA** and cationic **surfactants.**

AU Jacquier J.C.; Gorelov A.V.; McLoughlin D.M.; Dawson K.A.

CS K.A. Dawson, Centre Colloid Science/Biomaterials, Department of Chemistry, University College Dublin, Belfield, Dublin 4, Ireland

SO Journal of Chromatography A, (1998) Vol. 817, No. 1-2, pp. 263-271. .
Refs: 28
ISSN: 0021-9673 CODEN: JCRAEY

PUI S 0021-9673(98)00423-3

CY Netherlands

DT Journal; Article

FS 022 Human Genetics
029 Clinical Biochemistry

LA English

SL English

ED Entered STN: 19980910
Last Updated on STN: 19980910

ED Entered STN: 19980910
Last Updated on STN: 19980910

AB Due to the growing interest in the use of cationic **surfactants** for the construction of liposomal genetic delivery systems, the study of complex formation between **DNA** and **quaternary ammonium** detergents is of fundamental importance. In this context, we undertook the study of this complex formation using capillary zone electrophoresis (CZE) with suppressed electroosmotic flow, a technique that allowed us to both monitor the change in mobility of **DNA** as a function of added **surfactant** in a precise and reproducible manner and evaluate the potential of CZE to reflect the change in hydrodynamic friction upon binding. Nevertheless, CZE must be applied with caution for binding studies where strong cooperativity occurs, because of the presence of peak splitting at concentrations close

to the half-point of binding. Also, a comparison between this experiment and Manning's polyelectrolyte transport properties theory on one hand and Tirado and Garcia de la Torre expression for hydrodynamic friction of rod-like molecules on the other hand is given. Copyright (C) 1998 Elsevier Science B.V.

CT Medical Descriptors:
*drug dna binding
*complex formation
*dna cross linking
electroosmosis
ionic strength
capillary zone electrophoresis
gene targeting
article
priority journal
Drug Descriptors:
***cationic surfactant**
***dodecyltrimethylammonium bromide**
decyltrimethylammonium
unclassified drug

RN (dodecyltrimethylammonium bromide) 1119-94-4; (decyltrimethylammonium) 15053-09-5, 2082-84-0

L102 ANSWER 15 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 8

AN 1998306475 EMBASE

TI Biopolymer-**surfactant** interaction: 3. Kinetics of binding of cetyltrimethyl **ammonium** bromide to **deoxyribonucleic acid.**

AU Maulik S.; Chattoraj D.K.; Moulik S.P.

CS D.K. Chattoraj, Dept. Food Technol./Biochem. Engin., Jadavpur University, Calcutta 700 032, India

SO Colloids and Surfaces B: Biointerfaces, (15 Jun 1998) Vol. 11, No. 1-2, pp. 57-65. .
Refs: 26
ISSN: 0927-7765 CODEN: CSBBEQ

PUI S 0927-7765(98)00012-5

CY Netherlands

DT Journal; Article

FS 030 Pharmacology
037 Drug Literature Index

LA English

SL English

ED Entered STN: 19980924
Last Updated on STN: 19980924

ED Entered STN: 19980924
Last Updated on STN: 19980924

AB By using a **surfactant** ion-selective membrane electrode, the kinetics of binding of cetyltrimethyl **ammonium** bromide with **deoxyribonucleic acid** (**DNA**) were studied, The binding followed first-order kinetics and appeared to occur in three stages for native DNA. Denatured DNA (caused by heat, acid and alkali) exhibited two-stage first-order kinetics. The multi-stage rate constants followed the order k1 > k2 > k3 or k1 > k2; they were energetically well separated. The three-stage kinetics at ionic strength μ = 0.05 was reduced to a two-stage one at μ = 0.001. The enthalpies of activation of all three stages were low whereas the entropy values were reasonably high, and varied in a narrow range. The .DELTA.H(@=) < T.DELTA.S(@=) manifestation suggested the kinetic process to be essentially entropy controlled. An isokinetic enthalpy-entropy compensation phenomenon was

observed.
CT Medical Descriptors:
*dna drug complex
kinetics
ion selective electrode
enthalpy
ionic strength
ph
temperature
nonhuman
article
priority journal
Drug Descriptors:
***cetrimide: PD, pharmacology**
RN (cetrimide) 57-09-0, 6899-10-1, 8044-71-1
CO Merck (Germany)

L102 ANSWER 16 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 9
AN 97035219 EMBASE
DN 1997035219
TI Interaction of **surfactants** with **DNA.** Role of hydrophobicity and surface charge on intercalation and **DNA** melting.
AU Bhattacharya S.; Mandal S.S.
CS S. Bhattacharya, Department of Organic Chemistry, Indian Institute of Science, Bangalore 560012, India
SO Biochimica et Biophysica Acta - Biomembranes, (1997) Vol. 1323, No. 1, pp. 29-44. .
Refs: 49
ISSN: 0005-2736 CODEN: BBBMBS
PUI S 0005-2736(96)00171-X
CY Netherlands
DT Journal; Article
FS 022 Human Genetics
029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 970218
Last Updated on STN: 970218
ED Entered STN: 970218
Last Updated on STN: 970218
AB A probe, 9-(anthrylmethyl)**trimethylammonium** chloride, 1, was prepared. 1 binds to calf-thymus **DNA** or Escherichia coli genomic **DNA** with high affinity, as evidenced from the absorption titration. Strong hypochromism, spectral broadening and red-shifts in the absorption spectra were observed. Half-reciprocal plot constructed from this experiment gave binding constant of 5 ± 0.5 x 104 M-1 in base molarity. We employed this anthryl probe-**DNA** complex for studying the effects of addition of various **surfactant** to **DNA. Surfactants** of different charge types and chain lengths were used in this study and the effects of **surfactant** addition to such probe-**DNA** complex were compared with that of small organic cations or salts. Addition of either salts or cationic **surfactants** led to structural changes in **DNA** and under these conditions, the probe from the **DNA**-bound complex appeared to get released. However, the cationic **surfactants** could induce such release of the probe from the probe-**DNA** complex at a much lower concentration than that of the small organic cations or salts. In contrast the anionic **surfactants** failed to promote any

destabilization of such probe-**DNA** complexes. The effects of additives on the probe-DNA complexes were also examined by using a different technique (fluorescence spectroscopy) using a different probe ethidium bromide. The association complexes formed between the cationic **surfactants** and the plasmid **DNA** pTZ19R, were further examined under agarose gel electrophoresis and could not be visualized by ethidium bromide staining presumably due to cationic **surfactant** -induced condensation of **DNA.** Most of the **DNA** from such association complexes can be recovered by extraction of **surfactants** with phenol-chloroform. Inclusion of **surfactants** and other additives into the **DNA** generally enhanced the **DNA** melting temperatures by a few °C and at high [**surfactant**], the corresponding melting profiles got broadened.

CT Medical Descriptors:
*dna denaturation
*hydrophobicity
*surface charge
agar gel electrophoresis
article
complex formation
dna structure
priority journal
Drug Descriptors:
***surfactant**
cation
cetrimide
cetylpyridinium salt
dodecyl sulfate sodium
tetramethylammonium
tetramethylammonium chloride

RN (cetrimide) 57-09-0, 6899-10-1, 8044-71-1; (cetylpyridinium salt) 123-03-5, 140-72-7, 2349-55-5, 7773-52-6; (dodecyl sulfate sodium) 151-21-3; (tetramethylammonium) 51-92-3; (tetramethylammonium chloride) 75-57-0

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AN 2005338528 EMBASE

TI **DNA** - Cationic **surfactant** interactions are different for double- and single-stranded **DNA.**

AU Rosa M.; Dias R.; da Graca Miguel M.; Lindman B.

CS R. Dias, Chemistry Department, Coimbra University, 3004-535 Coimbra, Portugal. Rita.Dias@fkem1.lu.se

SO Biomacromolecules, (2005) Vol. 6, No. 4, pp. 2164-2171. .
Refs: 56
ISSN: 1525-7797 CODEN: BOMAF6

CY United States

DT Journal; Article

FS 022 Human Genetics
029 Clinical Biochemistry

LA English

SL English

ED Entered STN: 20050818
Last Updated on STN: 20050818

ED Entered STN: 20050818
Last Updated on STN: 20050818

AB The stability of **DNA** in solution and the phase behavior in mixtures with **dodecyltrimethylammonium** bromide (DTAB) were investigated. By means of circular dichroism, UV absorption, and

differential scanning calorimetry, we found that for dilute solutions of DNA with no addition of salt the DNA molecules are in the single-stranded conformation, whereas the addition of a small amount of NaBr, 1 mM, is sufficient to stabilize the DNA double-helix. Furthermore, at higher DNA concentrations, native DNA becomes the most stable structure, which is due to a self-screening effect. By phase diagram determinations of the **DNA - surfactant** system, we found that the effect of salt on phase behavior mainly relates to a difference in interaction of the amphiphile between single-stranded DNA (ssDNA) and double-stranded DNA (dsDNA). The difference in association between ss and dsDNA with **surfactants** of different chain lengths can be interpreted in terms of an interplay between hydrophobic and electrostatic interactions, the latter being influenced by polymer flexibility. In this way, a nonmonotonic variation can be rationalized. A crossing of the phase separation lines with DNA concentration can be rationalized in terms of a change in relative stability of ss and dsDNA. The fact that ssDNA phase separates earlier than dsDNA in association with DTAB, may serve as a basis for a method of easily separating dsDNA from ssDNA by the addition of **surfactant**; this is verified as monitored by circular dichroism measurements. .COPYRGT. 2005 American Chemical Society.

CT Medical Descriptors:
molecular stability
circular dichroism
light absorption
differential scanning calorimetry
dilution
single strand conformation polymorphism
DNA helix
concentration (parameters)
screening
molecular interaction
DNA sequence
hydrophobicity
electricity
phase separation
separation technique
nonhuman
controlled study
article
priority journal
Drug Descriptors:
*double stranded DNA
*single stranded DNA
***cationic surfactant**
dodecyltrimethylammonium bromide
sodium bromide
polymer

RN (dodecyltrimethylammonium bromide) 1119-94-4; (sodium bromide) 7647-15-6

L102 ANSWER 18 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

AN 2005235781 EMBASE

TI Influence of **surfactant** molecular structure on two-dimensional **surfactant-DNA** complexes: Langmuir balance study.

AU Chen X.; Wang J.; Liu M.

CS M. Liu, Center for Molecular Science, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100080, China. liumh@iccas.ac.cn

SO Journal of Colloid and Interface Science, (1 Jul 2005) Vol. 287, No. 1, pp. 185-190. .
Refs: 32

ISSN: 0021-9797 CODEN: JCISA5
PUI S 0021-9797(05)00074-3
CY United States
DT Journal; Article
FS 022 Human Genetics
LA English
SL English
ED Entered STN: 20050623
Last Updated on STN: 20050623
ED Entered STN: 20050623
Last Updated on STN: 20050623
AB In this paper, we used two simplified methods to understand the influence of **surfactant** molecular structure on the properties of **surfactant-DNA** complexes. First, we selected Langmuir balance technique, a two-dimensional (2D) method, which allows complex formation under equilibrium-like conditions, avoiding some of the inherent problems involved in solution. Secondly, two series of simple quaternary ammonium **surfactants** were used. The cationic **surfactant -DNA** complex monolayers were formed at the air-water interface through the electrostatic interaction between the **ammonium** groups of the **surfactants** and the phosphate groups of **DNA** at the air-water interface. Combining the results of π-A isotherms, π-t isotherms, and atomic force microscopy (AFM) measurements, it was found that the **surfactant** molecular structures affect the surface properties and morphologies of 2D **surfactant-DNA** complexes. We expect that the study of the properties of 2D **surfactant-DNA** complexes will help us to understand the physicochemical properties of **surfactant -DNA** complexes, which are important for gene delivery. .COPYRGT. 2005 Elsevier Inc. All rights reserved.
CT Medical Descriptors:
complex formation
air
electricity
isotherm
atomic force microscopy
surface property
morphology
physical chemistry
gene targeting
article
priority journal
Drug Descriptors:
*DNA
***cationic surfactant**
quaternary ammonium derivative
water
phosphate
RN (DNA) 9007-49-2; (water) 7732-18-5; (phosphate) 14066-19-4, 14265-44-2

L102 ANSWER 19 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN
AN 2004351085 EMBASE
TI Nanostructures of complexes formed by calf thymus **DNA** interacting with cationic **surfactants.**
AU Zhou S.; Liang D.; Burger C.; Yeh F.; Chu B.
CS B. Chu, Department of Chemistry, State University of New York, Long Island, NY 11794-3400, United States
SO Biomacromolecules, (2004) Vol. 5, No. 4, pp. 1256-1261. .
Refs: 29

ISSN: 1525-7797 CODEN: BOMAF6
CY United States
DT Journal; Article
FS 029 Clinical Biochemistry
037 Drug Literature Index
039 Pharmacy
LA English
SL English
ED Entered STN: 20040909
Last Updated on STN: 20040909
ED Entered STN: 20040909
Last Updated on STN: 20040909
AB Synchrotron small-angle X-ray scattering was used to study the nanostructures of the complexes formed by calf thymus **DNA** interacting with cationic lipids (or **surfactants**) of **didodecyldimethylammonium** bromide (DDAB), **cetyltrimethylammonium** bromide (CTAB), and their mixture with a zwitterionic lipid of 1-palmitoyl-2-hydroxy-sn-glycero-3-phosphocholine (PHGPC). The effects of lipid/DNA ratios, DNA chain flexibility, lipid topology, and neutral lipid mixing on the nanostructures of DNA-lipid complexes were investigated. The complexes between double-stranded DNA (dsDNA) and double-tailed DDAB formed a bilayered lamellar structnre, whereas the complexes between dsDNA and single-tailed CTAB preferred a structure of 2D hexagonal close packing of cylinders. With single stranded DNA (ssDNA) interacting with CTAB, the complexes showed a Pm3n cubic structure due to the different chain flexibility between dsDNA and ssDNA. The lipid molecules bound by rigid dsDNA like to form cylindrical micelles, whereas lipids bound to flexible ssDNA could form spherical or short cylindrical micelles. The addition of the neutral single-chained PHGPC lipids to the CTAB lipids could induce a structural transition of dsDNA-lipid complexes from a 2D hexagonal to a multi-bilayered lamellar structure. The parallel DNA strands were intercalated in the water layers of lamellar stacks of the mixed lipid bilayers. The DNA-DNA spacing depended on the ratios of charged lipid to neutral lipid, and charged lipid to DNA, respectively. .COPYRGT. 2004 American Chemical Society.
CT Medical Descriptors:
nanoparticle
complex formation
synchrotron
X ray crystallography
drug structure
structure analysis
DNA structure
lipid analysis
lipid bilayer
DNA binding
micellization
DNA strand
intercalation complex
controlled study
article
priority journal
Drug Descriptors:
*double stranded DNA: PR, pharmaceutics
***cationic surfactant: AN, drug analysis**
***cationic surfactant: PR, pharmaceutics**
cetrimide: AN, drug analysis
cetrimide: PR, pharmaceutics
didodecyldimethylammonium bromide: AN, drug analysis
didodecyldimethylammonium bromide: PR, pharmaceutics

quaternary ammonium derivative: AN, drug analysis
quaternary ammonium derivative: PR, pharmaceutics
1 palmitoyl 2 hydroxyglycero 3 phosphocholine: AN, drug analysis
1 palmitoyl 2 hydroxyglycero 3 phosphocholine: PR, pharmaceutics
phosphorylcholine: AN, drug analysis
phosphorylcholine: PR, pharmaceutics
ampholyte: AN, drug analysis
ampholyte: PR, pharmaceutics
single stranded DNA: PR, pharmaceutics
unclassified drug
RN (cetrimide) 57-09-0, 6899-10-1, 8044-71-1; (phosphorylcholine) 107-73-3
CO Worthington; Fluka; Avanti

L102 ANSWER 20 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN
AN 2002166179 EMBASE
TI Flexible elements in the structure of promoter **DNA** as probed by cationic **surfactant** binding.
AU Masulis I.S.; Buckin V.A.; Ozoline O.N.
CS O.N. Ozoline, Institute of Cell Biophysics, Russian Acad. of Sciences Pushchino, Moscow, Moscow Region 142290, Russian Federation. ozoline@icb.psn.ru
SO Journal of Biomolecular Structure and Dynamics, (2002) Vol. 19, No. 5, pp. 919-927. .
Refs: 31
ISSN: 0739-1102 CODEN: JBSDD6
CY United States
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 20020530
Last Updated on STN: 20020530
ED Entered STN: 20020530
Last Updated on STN: 20020530
AB A susceptibility of promoter **DNA** for adaptive conformational transitions has been studied using a cationic **surfactant** **dodecyltrimethylammonium** bromide (C(12)TAB) as a model **DNA** -binding ligand. DNAse 1 and KMnO(4) were utilized as structure-specific reagents. Both reagents revealed ligand-induced perturbations in the double helix of promoters T7A1 and T7D. These conformational transitions appeared to be strongly associated with pyrimidine-purine steps, which have non-random distribution within RNA polymerase contact region of the promoter DNA and are present in the binding sites for a majority of transcription regulation proteins. Potential flexibility of these elements creates therefore a specific media for transcription complex formation. Molecular mechanism of DNA interaction with C(12)TAB is discussed.
CT Medical Descriptors:
*DNA conformation
*promoter region
DNA probe
conformational transition
structure analysis
DNA binding
molecular model
DNA helix
binding site
complex formation
transcription regulation

molecular interaction
DNA sequence
article
priority journal
Drug Descriptors:
*DNA
***cationic surfactant**
dodecyltrimethylammonium bromide
ligand
deoxyribonuclease I
reagent
pyrimidine
purine
RNA polymerase
regulator protein
RN (DNA) 9007-49-2; (dodecyltrimethylammonium bromide) 1119-94-4; (deoxyribonuclease I) 9003-98-9; (pyrimidine) 289-95-2; (purine) 120-73-0; (RNA polymerase) 9014-24-8

L102 ANSWER 21 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN
AN 2001287856 EMBASE
TI Interaction of morin-**cetyltrimethylammonium** bromide with **nucleic acids** and determination of **nucleic acids** at nanograms per milliliter levels based on the enhancement of preresonance light scattering.
AU Liu R.; Yang J.; Wu X.; Sun C.; Wu T.
CS J. Yang, Key Lab. Colloid/Interface Chemistry, Department of Chemistry, Shandong University, Jinan 250100, China. yjh@sdu.edu.cn
SO Analyst, (2001) Vol. 126, No. 8, pp. 1367-1371. .
Refs: 37
ISSN: 0003-2654 CODEN: ANALAO
CY United Kingdom
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 20010830
Last Updated on STN: 20010830
ED Entered STN: 20010830
Last Updated on STN: 20010830
AB A new preresonance light scattering (PRLS) assay of nucleic acids is presented. At pH 7.30, the weak PRLS of morin-**cetyltrimethylammonium** bromide (CTMAB) can be greatly enhanced by the addition of **nucleic acids**, owing to the interaction between the nucleic acid and morin-CTMAB. After the addition of morin and CTMAB to DNA, the zeta potential of DNA decreases and changes from negative to positive, which is due to the formation of an associate, the aggregation of morin on **nucleic acids** and the electric neutralization between **DNA** and the cationic **surfactant** CTMAB. Mechanism studies showed that the enhanced PRLS comes from the aggregation of morin in the presence of nucleic acids and CTMAB. The enhanced intensity of PRLS is in proportion to the concentration of nucleic acids in the range 7.5 x 10(-9)-1.0 x 10(-5) g ml(-1) for calf thymus DNA, 7.5 x 10(-9)-1.0 x 10(-6) g ml(-1) for salmon sperm DNA and 1.0 x 10(-8)-1.0 x 10(-6) g ml(-1) for yeast RNA. The detection limits are 3.4, 6.2 and 4.1 ng mi(-1) for calf thymus DNA, salmon sperm DNA and yeast RNA, respectively. Synthetic samples were analyzed satisfactorily.
CT Medical Descriptors:

*molecular interaction
*nucleic acid analysis
*light scattering
weight
pH
zeta potential
complex formation
surface charge
reaction analysis
concentration (parameters)
cattle
thymus
salmon
sperm
yeast
article
Drug Descriptors:
*morin
***cetrimide**
*nucleic acid
DNA
cationic surfactant
RNA
RN (morin) 480-16-0; (cetrimide) 57-09-0, 6899-10-1, 8044-71-1; (DNA) 9007-49-2; (RNA) 63231-63-0

L102 ANSWER 22 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN
AN 2000308552 EMBASE
TI Gene transfer by cationic **surfactants** is essentially limited by the trapping of the **surfactant/DNA** complexes onto the cell membrane: A fluorescence investigation.
AU Clamme J.P.; Bernacchi S.; Vuilleumier C.; Duportail G.; Mely Y.
CS Y. Mely, UMR 7034 du CNRS, Faculte de Pharmacie, Univ. Louis Pasteur de Strasbourg, 74 Route du Rhin, 67401 Illkirch, France. mely@pharma.u-strasbg.fr
SO Biochimica et Biophysica Acta - Biomembranes, (25 Aug 2000) Vol. 1467, No. 2, pp. 347-361. .
Refs: 46
ISSN: 0005-2736 CODEN: BBBMBS
PUI S 0005-2736(00)00230-3
CY Netherlands
DT Journal; Article
FS 037 Drug Literature Index
039 Pharmacy
LA English
SL English
ED Entered STN: 20000921
Last Updated on STN: 20000921
ED Entered STN: 20000921
Last Updated on STN: 20000921
AB The interaction between complexes of plasmid **DNA** with **cetyltrimethylammonium** bromide (CTAB) and L929 fibroblasts was first examined using confocal microscopy. The complexes labeled with the DNA intercalator, YOYO-1, were found to be trapped onto the external face of the plasma membrane; a feature that may constitute a major limiting step in transfection. Moreover, since no cytotoxic effect appeared in these conditions, we further inferred that the CTAB molecules remained bound to the DNA. The interaction of the complexes with the membranes was best modeled with neutral vesicles. From anisotropy thermotropic curves

of DPHpPC-labeled vesicles and fluorescence resonance energy transfer measurements between these vesicles and YOYO-labeled complexes, we evidenced that the binding of the complexes to the vesicle surface opened the micelle-like domains and unwound DNA. However, DNA was not released but remained stably bound via electrostatic interactions to the CTAB molecules incorporated in the external liposome leaflet. Consequently, the large diameter of the unwound plasmid DNA is likely the major factor that precludes its internalization into the cells by endocytosis. In contrast, anionic vesicles that mimic the cytoplasmic facing monolayer of the plasma membrane rapidly released DNA from the complex. This may explain the previously reported high transfection efficiency of **DNA** complexed with liposomes composed of neutral lipids and cationic **surfactants**, since the latter may destabilize the endosomal membrane and induce the release of **DNA** in the cytoplasm. (C) 2000 Elsevier Science B.V.

CT Medical Descriptors:
*gene transfer
*fluorescence
*complex formation
gene therapy
confocal laser microscopy
anisotropy
molecular interaction
endocytosis
membrane stabilization
fibroblast
membrane binding
cytotoxicity
nonhuman
mouse
animal cell
article
priority journal
Drug Descriptors:
***cationic surfactant: PR, pharmaceutics**
*DNA: PR, pharmaceutics
phospholipid
cetrimide: PR, pharmaceutics
intercalating agent

RN (DNA) 9007-49-2; (cetrimide) 57-09-0, 6899-10-1, 8044-71-1
CO Sigma

L102 ANSWER 23 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN
AN 1999251740 EMBASE
TI DNA conformational dynamics in the presence of catanionic mixtures.
AU Mel'nikov S.M.; Dias R.; Mel'nikova Y.S.; Marques E.F.; Miguel M.G.; Lindman B.
CS S.M. Mel'nikov, Unilever Research Lab. Vlaardingen, Oliver van Noortlaan 120, 3133 AT Vlaardingen, Netherlands. sergey.melnikov@unilever.com
SO FEBS Letters, (1999) Vol. 453, No. 1-2, pp. 113-118. .
Refs: 26
ISSN: 0014-5793 CODEN: FEBLAL
CY Netherlands
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 19990805
Last Updated on STN: 19990805

ED Entered STN: 19990805
Last Updated on STN: 19990805
AB **DNA** conformational behavior in the presence of non-stoichiometric mixtures of two oppositely charged **surfactants**, **cetyltrimethylammonium** bromide and sodium octyl sulfate, was directly visualized in an aqueous solution with the use of a fluorescence microscopy technique. It was found that in the presence of cationic-rich catanionic mixtures, DNA molecules exhibit a conformational transition from elongated coil to compact globule states. Moreover, if the catanionic mixtures form positively charged vesicles, DNA is adsorbed onto the surface of the vesicles in a collapsed globular form. When anionic-rich catanionic mixtures are present in the solution, no change in the DNA conformational behavior was detected. Cryogenic transmission electron microscopy, as well as measurements of translational diffusion coefficients of individual DNA chains, supported our optical microscopy observations.
CT Medical Descriptors:
*DNA conformation
aqueous solution
fluorescence microscopy
conformational transition
transmission electron microscopy
microscopy
article
priority journal
Drug Descriptors:
cetrimide
anionic surfactant
cationic surfactant
RN (cetrimide) 57-09-0, 6899-10-1, 8044-71-1

L102 ANSWER 24 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN
AN 75027232 EMBASE
DN 1975027232
TI The equilibria and reaction rates of nicotinamide adenine dinucleotide and its related compounds with cyanide ion in the presence of polyelectrolytes.
AU Okubo T.; Ise N.
CS Dept. Polymer Chem., Kyoto Univ., Kyoto, Japan
SO Journal of Biological Chemistry, (1974) Vol. 249, No. 11, pp. 3563-3567. .
CODEN: JBCHA3
DT Journal
FS 037 Drug Literature Index
029 Clinical Biochemistry
LA English
AB The rate and equilibrium constants for addition of cyanide ions to β nicotinamide adenine dinucleotide (βNAD+), αNAD+ and nicotinamide **mononucleotide** (NMN) were studied in the presence and absence of polyelectrolytes and **surfactants.** The polymers examined were poly(4 vinyl N butylpyridinium bromide) (C4PVP), poly(4 vinyl N benzylpyridinium chloride) (BzPVP), copolymer of 4 vinyl N benzylchloride and 4 vinyl N n cetylbromide (C16BzPVP), copolymer of **diethyldiallylammonium** chloride and sulfur dioxide (DECS), **DNA**, poly(A), poly(I), poly(C), and poly(U). The **surfactant** was cetyltrimethylammonium bromide (CTABr). All of the electrolytes investigated, except anionic polyelectrolytes, increased the second order rate constant of the forward process (k) → of the cyanide addition reaction in the order, αNAD+ > βNAD+ > NMN+. The order was explained by the difference in the effective local charges

of the substrates. The increase was in the order, KCl < CaCl2 < DECS < C4PVP < BzPVP < C16BzPVP, suggesting the simultaneous contribution of hydrophobic and electrostatic interactions between βNAD+ (αNAD+ or NMN) and the polyelectrolytes. On the contrary, the backward reaction was decelerated by the polyelectrolytes. The thermodynamic quantities of the cyanide addition reaction, i.e. the free energy, enthalpy, and entropy of activation, and the free energy, enthalpy, and entropy of reaction, were derived. The acceleration by polyelectrolyte was due to entropic gain, in contrast with many of the previously studied systems.

CT Medical Descriptors:
*cross syndrome
*drug hypersensitivity
*polyadenosine
*polycytidine
*polyuridine
theoretical study
Drug Descriptors:
*adenine derivative
*calcium chloride
***cetrimide**
*nicotinamide adenine dinucleotide
*nicotinamide nucleotide
*polyinosinic acid
*potassium chloride
*potassium cyanide
*styrene derivative
*theophylline
*thymine derivative

RN (calcium chloride) 10043-52-4; (cetrimide) 57-09-0, 6899-10-1, 8044-71-1; (nicotinamide adenine dinucleotide) 53-84-9; (nicotinamide nucleotide) 1094-61-7; (polyinosinic acid) 30918-54-8; (potassium chloride) 7447-40-7; (potassium cyanide) 151-50-8; (theophylline) 58-55-9, 5967-84-0, 8055-07-0, 8061-56-1, 99007-19-9

CO Boehringer (Germany); Merck (Germany)

L102 ANSWER 25 OF 45 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 2004:429839 BIOSIS

DN PREV200400433569

TI Complexation to cationic microspheres of double-stranded peptide **nucleic acid-DNA** chimeras exhibiting decoy activity.

AU Mischiati, Carlo; Sereni, Alessia; Finotti, Alessia; Breda, Laura; Cortesi, Rita; Nastruzzi, Claudio; Romanelli, Alessandra; Saviano, Michele; Bianchi, Nicoletta; Pedone, Carlo; Borgatti, Monica; Gambari, Roberto [Reprint Author]

CS Dept Biochem and Mol Biol, Univ Ferrara, Via L Borsari 46, IT-44100, Ferrara, Italy
gam@unife.it

SO Journal of Biomedical Science, (2004) Vol. 11, No. 5, pp. 697-704. print. ISSN: 1021-7770.

DT Article

LA English

ED Entered STN: 10 Nov 2004
Last Updated on STN: 10 Nov 2004

ED Entered STN: 10 Nov 2004
Last Updated on STN: 10 Nov 2004

AB The major aim of this paper was to determine whether cationic microspheres (CM), consisting of the permeable polymer Eudragit(R) RS 100 plus the cationic **surfactant** dioctadecyl-dimethyl-**ammonium**

bromide (DDAB18), could bind to double-stranded peptide **nucleic acid** PNA-**DNA**-PNA (PDP) chimeras exhibiting decoy activity against NF-kappaB transcription factors. Microspheres were produced by the 'solvent evaporation method' and centrifugation at 500, 1,000 and 3,000 rpm to obtain different-sized microparticles. Microsphere morphology, size and size distribution were determined by optical and electron microscopy observations. In order to determine their binding activity, double-stranded DNA-based and PDP-based decoy molecules were incubated with different amounts of microparticles in the presence of 100 ng of either 32P-labeled DNA-DNA or DNA-PDP hybrid molecules or cold PDP-PDP hybrids. The complexes were analyzed by agarose gel electrophoresis. The resistance of 32P-labeled DNA-DNA and DNA-PDP molecules in the presence of serum or cellular extracts was evaluated after binding to CM by gel electrophoresis analysis. DDAB18 Eudragit RS 100 microspheres are able to bind to DNA-PDP and PDP-PDP hybrids, to deliver these molecules to target cells and to protect DNA-PDP molecules from enzymatic degradation in simulated biological fluids. In addition, when assayed in ex vivo conditions, DDAB18 Eudragit RS 100 microspheres exhibited low toxicity. The results presented in this paper demonstrate that CM can be considered suitable formulations for pharmacogenomic therapy employing double-stranded PDP chimeras. Copyright (C) 2004 National Science Council, ROC and S. Karger AG, Basel.

CC Genetics - General 03502
Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
Biochemistry studies - Proteins, peptides and amino acids 10064
Pathology - Therapy 12512
Pharmacology - General 22002

IT Major Concepts
Molecular Genetics (Biochemistry and Molecular Biophysics); Pharmaceuticals (Pharmacology)

IT Chemicals & Biochemicals
DNA; Eudragit RS 100 polymer; NF-kappa-B [nuclear factor-kappa-B]: transcription factor; dioctadecyl-dimethyl-**ammonium** bromide: cationic **surfactant**; peptide **nucleic acid-DNA** chimera

IT Methods & Equipment
agarose gel electrophoresis: electrophoretic techniques, laboratory techniques; electron microscopy: imaging and microscopy techniques, laboratory techniques; gene therapy: clinical techniques, genetic techniques, laboratory techniques, therapeutic and prophylactic techniques; optical microscopy: imaging and microscopy techniques, laboratory techniques; pharmacogenomic therapy: clinical techniques, therapeutic and prophylactic techniques; solvent evaporation method: laboratory techniques

IT Miscellaneous Descriptors
cationic microsphere complexation; decoy activity

RN 3700-67-2 (dioctadecyl-dimethyl-**ammonium** bromide)

L102 ANSWER 26 OF 45 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1997:211343 BIOSIS

DN PREV199799510546

TI Effects of cationic liposome-**DNA** complexes on pulmonary **surfactant** function in vitro and in vivo.

AU Boncuk, Pinar; Kaser, Matthew [Reprint author]; Yu, Yip; Taeusch, H. William

CS Dep. Pediatrics, MS 6E, San Francisco General Hosp., 1001 Potrero Ave., San Francisco, CA 94110, USA

SO Lipids, (1997) Vol. 32, No. 3, pp. 247-253.
CODEN: LPDSAP. ISSN: 0024-4201.

DT Article
LA English
ED Entered STN: 12 May 1997
Last Updated on STN: 2 Jun 1997
ED Entered STN: 12 May 1997
Last Updated on STN: 2 Jun 1997
AB Cationic liposome-DNA complexes are being evaluated as potential gene therapy agents for the lung. Cations have strong effects on the biophysical functions of lung surfactant. Therefore, we assessed whether cationic liposomes (composed of N-(1-(2,3-dioleyloxy) propyl)-N,N,N-trimethyl-**ammonium** chloride and dioleylphosphatidylethanolamine) with or without **DNA** affect behavior of four types of **surfactant** in vitro. Experiments were carried out using a modified Wilhelmy surface balance. The ability of surfactants that contain protein and anionic lipids to lower surface tension was inhibited in the presence of cationic liposomes. Inactivation was less when DNA was preincubated with cationic liposomes. Surfactant that contained neither protein nor anionic lipids was not inactivated. Mechanical properties of the lung were studied to assess in vivo **surfactant** function after intratracheal instillation of a cationic liposome-**DNA** complex into adult rats. Pressure-volume deflation curves were shifted by 18% compared with those from normal (untreated) animals, but this effect was transient and not different from that observed in animals who received a similar volume of saline. These findings indicate that cationic liposomes alone may have deleterious effects on behavior of some surfactants possibly by disrupting charge interactions between negatively charged phospholipids and surfactant proteins. When **DNA** is added to liposomes before exposure to **surfactants**, the adverse charge interactions may be obviated by charge neutralization of liposomes by **DNA.**
CC Genetics - General 03502
Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
Biochemistry studies - Lipids 10066
Biophysics - Molecular properties and macromolecules 10506
Blood - Other body fluids 15010
Respiratory system - Physiology and biochemistry 16004
IT Major Concepts
Biochemistry and Molecular Biophysics; Genetics; Physiology; Respiratory System (Respiration)
IT Chemicals & Biochemicals
AMMONIUM CHLORIDE
IT Miscellaneous Descriptors
BIOCHEMISTRY AND BIOPHYSICS; CATIONIC LIPOSOME; CATIONIC LIPOSOME-**DNA** COMPLEXES; FUNCTION; N-(1-(2,3-DIOLEYLOXY)PROPYL)-N,N,N-TRIMETHYL-**AMMONIUM** CHLORIDE; POTENTIAL GENE THERAPY AGENTS; PULMONARY **SURFACTANT**; RESPIRATORY SYSTEM
ORGN Classifier
Muridae 86375
Super Taxa
Rodentia; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
rat
Taxa Notes
Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Rodents, Vertebrates
RN 12125-02-9 (**AMMONIUM** CHLORIDE)

L102 ANSWER 27 OF 45 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1983:296877 BIOSIS

DN PREV198376054369; BA76:54369
TI THE BINDING OF CATIONIC **SURFACTANTS** BY **DNA.**
AU HAYAKAWA K [Reprint author]; SANTERRE J P; KWAK J C T
CS DEP CHEM, FAC SCI, KAGOSHIMA UNIV, KAGOSHIMA, JAPAN 890
SO Biophysical Chemistry, (1983) Vol. 17, No. 3, pp. 175-182.
CODEN: BICIAZ. ISSN: 0301-4622.
DT Article
FS BA
LA ENGLISH
AB Isotherms for the binding of **dodecyltrimethylammonium** (DTA+) and **tetradecyltrimethylammonium** (TTA+) ions by [salmon sperm] **DNA** in aqueous solution at 30° C are reported. The binding isotherms were determined using a potentiometric technique with cationic surfactant-selective electrodes. The **DNA** concentrations used are 5 + 10-4 and 10-3 equiv/kg, **surfactant** concentrations varying from 3 + 10-6 M to the critical micelle concentration. The influence of added NaCl (0.01 M) on the binding process is studied. The binding process is highly cooperative. Applying the binding theory of Schwarz and of Satake and Yang, binding constants and cooperativity parameters can be calculated. The binding constant K is 1.2kT larger for TTA+ than for DTA+ in salt-free solution, and 1.4kT larger for TTA+ than for DTA+ in 0.01 M NaCl. The cooperativity parameter u is about 1.1kT larger for TTA+ in salt-free solution, and 1.2kT larger in 0.01 M NaCl. The hydrophobic part of the bound **surfactant** is probably not completely immersed in the hydrophobic **DNA** core, but also interacts with other **surfactant** molecules. This situation is compared to the case of micelle formation.
CC Genetics - Animal 03506
Mathematical biology and statistical methods 04500
Ecology: environmental biology - Water research and fishery biology 07517
Biochemistry studies - General 10060
Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
Biophysics - Methods and techniques 10504
Biophysics - Molecular properties and macromolecules 10506
External effects - Temperature as a primary variable 10614
Reproductive system - Physiology and biochemistry 16504
Temperature - General measurement and methods 23001
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Miscellaneous Descriptors
SALMON SPERM DODECYL TRI METHYL **AMMONIUM** TETRADECYL TRI METHYL **AMMONIUM**
ORGN Classifier
Osteichthyes 85206
Super Taxa
Pisces; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Fish, Nonhuman Vertebrates, Vertebrates
RN 10182-91-9 (DODECYLTRIMETHYLAMMONIUM)
10182-92-0 (TETRADECYLTRIMETHYLAMMONIUM)

L102 ANSWER 28 OF 45 PASCAL COPYRIGHT 2006 INIST-CNRS. ALL RIGHTS RESERVED.
on STN DUPLICATE 4
AN 2005-0085280 PASCAL
CP Copyright .COPYRGT. 2005 INIST-CNRS. All rights reserved.
TIEN **DNA** extraction by cationic reverse micelles
Special Issue for Recent Progress on Molecular Assemblies Design and Novel Structures in Liquid Phase

AU GOTO Masahiro; MOMOTA Ayumi; ONO Tsutomu
GOTO Masahiro (ed.); HIRAI Takayuki (ed.); OKUBO Tatsuya (ed.); SHIOI Akihisa (ed.)
CS Department of Applied Chemictry, Graduate School of Engineering, Kyushu University, 6-10-1, Hakosaki, Higashi-ka, Fukuoka-shi, Fukuoka 812-8581, Japan; PRESTO JST, Japan; Department of Chemical Engineering, Graduate School of Engineering, Kyushu University, 6-10-1, Hakosaki, Higashi-ku, Fukuoka-shi, Fukuoka 812-8581, Japan
Kyushu University, Japan; Osaka University, Japan; The University of Tokyo, Japan; Yamagata University, Japan
SO Journal of chemical engineering of Japan, (2004), 37(5), 662-668, 16 refs.
ISSN: 0021-9592 CODEN: JCEJAQ
DT Journal; (research paper)
BL Analytic
CY Japan
LA English
AV INIST-14467, 354000113716980140
UP 20050301
AB Deoxyribonucleotide (DNA) was successfully extracted in a few hours by reverse micelles, which were formed and functionalized by a cationic **quaternary ammonium surfactant** in isooctane.
Several parameters which affect the **DNA** transfer from an aqueous phase to a reverse micellar phase, such as the natures of a surfactant and a solvent, salt concentration in a feed solution, and hydrophobicity of micelles, were investigated. The use of a cationic **surfactant** was found to yield a high transfer rate of **DNA** into reverse micelles. We have attributed the **DNA** transfer to the electrostatic interaction between the cationic **surfactant** and the negatively charged **DNA.** We found that the higher the hydrophobicity of a **surfactant** used to form micelles, the better the **DNA** transfer efficiency in the forward extraction. Preferential extraction of **DNA** was achieved by using twin long-alkyl chains of cationic **surfactants.** However, pH in the aqueous feed solution did not affect the extraction performance of reverse micelles. On the other hand, alcohol, as a co-solvent plays an important role in the back extraction of DNAs. Complete back-extraction of DNAs was achieved without any conformational change by adding an appropriate alcohol to the reverse micellar phase.

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AN 2005-0039848 PASCAL
CP Copyright .COPYRGT. 2005 INIST-CNRS. All rights reserved.
TIEN Fractionation of protein, RNA, and plasmid **DNA** in centrifugal precipitation chromatography using cationic **surfactant** CTAB containing inorganic salts NaCl and NH.sub.4Cl
AU TOMANEE Panarat; HSU James T.; ITO Yoichiro
CS Biopharmaceutical Technology Institute, Department of Chemical Engineering, Lehigh University, Bethlehem, Pennsylvania 18015, United States; Laboratory of Biophysical Chemistry, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD 20892, United States
SO Biotechnology and bioengineering, (2004), 88(1), 52-59, 18 refs.
ISSN: 0006-3592 CODEN: BIBIAU
DT Journal
BL Analytic
CY United States
LA English
AV INIST-9164, 354000122589020060

UP 20050124
AB Centrifugal precipitation chromatography (CPC) is a separation system that mainly employs a moving concentration gradient of precipitating agent along a channel and solutes of interest undergo repetitive precipitation-dissolution, fractionate at different locations, and elute out from the channel according to their solubility in the precipitating agent solution. We report here for the first time the use of a CPC system for fractionation of protein, RNA, and plasmid **DNA** in clarified lysate produced from bacterial culture. The cationic **surfactant** **cetyltrimethylammonium** bromide (CTAB) was initially used as a precipitating agent; however, all biomolecules showed no differential solubility in the moving concentration gradient of this **surfactant** and, as a result, no separation of protein, RNA, and plasmid **DNA** occurred. To overcome this problem, inorganic salts such as NaCI and NH.sub.4Cl were introduced into solution of CTAB. The protein and RNA were found to have higher solubility with the addition of these salts and separated from the plasmid DNA. Decreasing surface charge density of CTAB upon addition of NaCI and NH.sub.4Cl was believed to lead to lower surfactant complexation, and therefore caused differential solubility and fractionation of these biomolecules. Addition of CaCl.sub.2 did not improve solubility and separation of RNA from plasmid DNA.

L102 ANSWER 30 OF 45 LIFESCI COPYRIGHT 2006 CSA on STN
AN 94:45172 LIFESCI
TI **Quaternary amine surfactants** and methods of using same in isolation of **nucleic acids**
AU Macfarlane, D.E.
CS Univ. Iowa Res. Found., Iowa City, IA (USA)
SO (1994) . US Patent 5,300,635.
DT Patent
FS W2; W3
LA English
AB A method for isolating nucleic acids from a biological sample comprising the step of contacting the sample with an aqueous quaternary amine surfactant.

L102 ANSWER 31 OF 45 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
AN 2000:30616442 BIOTECHNO
TI Biodegradable pH-sensitive **surfactants** (BPS) in liposome-mediated **nucleic acid** cellular uptake and distribution
AU Liang E.; Rosenblatt M.N.; Ajmani P.S.; Hughes J.A.
CS J.A. Hughes, Department of Pharmaceutics, College of Pharmacy, University of Florida, P.O. Box 100494, Gainesville, FL 32610, United States. E-mail: hughes@cop.ufl.edu
SO European Journal of Pharmaceutical Sciences, (2000), 11/3 (199-205), 20 reference(s)
CODEN: EPSCED ISSN: 0928-0987
PUI S0928098700001019
DT Journal; Article
CY Netherlands
LA English
SL English
ED 20000828
AB The impact of biodegradable pH-sensitive **surfactant** (BPS)-liposomes on **nucleic acid**, i.e., **oligonucleotide** and plasmid **DNA**, cellular delivery was examined. Fluorescein-labeled **nucleic acids** complexed with 1,2-dioleoyl-3-**trimethylammonium** propane cationic

liposomes and BPS at a charge ratio (+/-) of 10 were incubated in CV-1 cells and analyzed by flow cytometry. The fluorescence intensity of oligonucleotides but not plasmid DNA complexed with BPS-liposomes was higher than those complexed with BPS-free liposomes at early time points. However, when cells were fixed to equalize the intracellular pH since fluorescein, a pH-sensitive fluorophore, has higher fluorescence intensity in alkaline pH than acidic, no difference in intensity was observed. This indicated the incorporation of BPS in liposomes did not increase oligonucleotide cellular uptake over control liposomes, but redistributed oligonucleotides into a more basic environment, e.g., cytoplasm. An explanation consistent with the presented data is the formation of small transient membrane defects within the endosomal membrane as presented previously [Liang, E., Hughes, J.A., 1998a. Membrane fusion and rupture in liposomes: effect of biodegradable pH-sensitive surfactants. J. Membr. Biol. 166, 37-49.]. The above findings suggested that BPS may be effective agents of disrupting one of the major barriers, endosomal membrane, to enhance nucleic acid cellular transport. Copyright (C) 2000 Elsevier Science B.V.

L102 ANSWER 32 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:721361 SCISEARCH
GA The Genuine Article (R) Number: 941XW
TI **DNA** compaction onto hydrophobic surfaces by different cationic **surfactants**
AU Cardenas M; Nylander T (Reprint); Thomas R K; Lindman B
CS Lund Univ, Ctr Chem & Chem Engn, POB 124, SE-22100 Lund, Sweden (Reprint); Lund Univ, Ctr Chem & Chem Engn, SE-22100 Lund, Sweden; Univ Oxford, Phys & Theoret Chem Lab, Oxford OX1 3QZ, England
Tommy.Nylander@fkem1.lu.se
CYA Sweden; England
SO LANGMUIR, (5 JUL 2005) Vol. 21, No. 14, pp. 6495-6502.
ISSN: 0743-7463.
PB AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA.
DT Article; Journal
LA English
REC Reference Count: 47
ED Entered STN: 22 Jul 2005
Last Updated on STN: 22 Jul 2005
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 22 Jul 2005
Last Updated on STN: 22 Jul 2005
AB **DNA** compaction by **alkyltrimethylammonium surfactants** at hydrophobized silica surfaces and the effect of the counterion, as well as the hydrocarbon chain length, was investigated by in situ null-ellipsometry. In addition, **DNA** compaction in the presence of a gemini **surfactant**, hexyl-alpha,omega-bis(dodecyldimethylammonium bromide), was studied. The type of cationic amphiphile used was found not to have a pronounced effect on the mixed **DNA**-cationic **surfactant** adsorbed layer thickness, although the surface concentration excess for the mixed layers seemed to follow the same trend as that for **DNA**-free **surfactant** layers. Interestingly, it was also found that the stability of the mixed adsorbed layer largely depends on the cationic surfactant used.

L102 ANSWER 33 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:1022669 SCISEARCH
GA The Genuine Article (R) Number: 971KU
TI Aggregates formation between short **DNA** fragments and cationic

surfactants
AU McLoughlin D; Delsanti M; Albouy P A; Langevin D (Reprint)
CS Univ Paris 11, Phys Solides Lab, Orsay, France (Reprint); CEA Saclay, Lab Lions, Gif Sur Yvette, France
langevin@lps.u-psud.fr
CYA France
SO MOLECULAR PHYSICS, (NOV-DEC 2005) Vol. 103, No. 21-23, pp. 3125-3139.
ISSN: 0026-8976.
PB TAYLOR & FRANCIS LTD, 4 PARK SQUARE, MILTON PARK, ABINGDON OX14 4RN, OXON, ENGLAND.
DT Article; Journal
LA English
REC Reference Count: 70
ED Entered STN: 20 Oct 2005
Last Updated on STN: 20 Oct 2005
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 20 Oct 2005
Last Updated on STN: 20 Oct 2005
AB We have studied aggregate formation between **dodecyltrimethylammonium** bromide (DTAB) and monodisperse short fragments of **DNA** (50nm length). DTAB is a cationic **surfactant**, able to bind to polyelectrolyte chains bearing electrical charges of opposite sign such as **DNA**, and to precipitate them out above a certain concentration. Light scattering was used to determine the size, shape and composition of the surfactant-polymer aggregates. The aggregates have a low polydispersity, contain several polymer chains and grow in a nonlinear manner with increasing binding ratio (as obtained with surfactant selective electrodes), when surfactant concentration increases. In addition, small **DNA** secondary structural changes upon **surfactant** binding were found (by using several spectroscopic methods). As **surfactant** concentration is increased further, phase separation is observed and X-ray scattering data for the **DNA**-rich phase shows that it has a liquid crystalline structure.

L102 ANSWER 34 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:393421 SCISEARCH
GA The Genuine Article (R) Number: 914YO
TI Interaction of gemini **surfactants** butane-1,4-diyl-bis (**alkyldimethylammonium** bromide) with **DNA**
AU Uhrikova D (Reprint); Zajac I; Dubnickova M; Pisarcik M; Funari S S; Rapp G; Balgavy P
CS Comenius Univ, Fac Pharm, Odbojarov 10, Bratislava 83232, Slovakia (Reprint); Comenius Univ, Fac Pharm, Bratislava 83232, Slovakia; CO HASYLAB, DESY, Max Planck Inst Colloids & Interfaces, D-22603 Hamburg, Germany; Rapp OptoElect GmbH, D-22559 Hamburg, Germany
daniela.uhrikova@fpharm.uniba.sk
CYA Slovakia; Germany
SO COLLOIDS AND SURFACES B-BIOINTERFACES, (25 APR 2005) Vol. 42, No. 1, pp. 59-68.
ISSN: 0927-7765.
PB ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
DT Article; Journal
LA English
REC Reference Count: 75
ED Entered STN: 21 Apr 2005
Last Updated on STN: 21 Apr 2005
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 21 Apr 2005

Last Updated on STN: 21 Apr 2005

AB The size and structure of aggregates formed by interaction of **DNA** with homologous series of cationic gemini **surfactants** butane-1,4-diylbis-(alkyldimethylammonium bromide) (CnGS, n = 10-16 is the number of alkyl carbons) were investigated using UV-vis turbidity, dynamic light scattering and small-angle synchrotron X-ray (SAX) diffraction. The detailed analysis of turbidity in the range of lambda = 450-600 nm indicates an anomaly in the growth of CnGS + DNA aggregates with increasing concentration of CnGS, possibly involving changes of structure and size of aggregates. Using dynamic light scattering, changes of the effective diameter of CnGS + DNA (n = 12 and 16) aggregates formed in the CnGS concentration range 0.002-0.140 mmol/l were observed. SAX diffractograms show the presence of long-range organization of CnGS + DNA (n = 12, 13, 14 and 16) aggregates due to DNA interaction with CnGS above the critical micellar concentration. The CnGS + DNA (n = 12, 13 and 14) aggregates at 25 degrees C are packed in a lattice of two-dimensional hexagonal symmetry. With increasing C14GS:DNA molar ratio the changes of the lattice parameter in the range of 4.80-5.27 nm are observed at 25 degrees C. The aggregates undergo structural changes induced by temperature in the range 60-95 degrees C, which are accompanied by changes of the diffraction patterns, namely in the region of reciprocal spacing s = 0.15-0.30 nm(-1).

L102 ANSWER 35 OF 45 SCISEARCH

AN 2005:392625 SCISEARCH

GA The Genuine Article (R) Number: 914DZ

TI Interaction **cetyltrimethylammonium** bromide-**DNA** investigated by dielectric spectroscopy

AU Bonincontro A (Reprint); Marchetti S; Onori G; Rosati A

CS Univ Roma La Sapienza, CRS, INFM, SOFT, Dipartimento Fis, Piazzale Aldo Moro 2, I-00185 Rome, Italy (Reprint); Univ Roma La Sapienza, CRS, INFM, SOFT, Dipartimento Fis, I-00185 Rome, Italy; Univ Perugia, CEMIN, Dipartimento Fis, I-06123 Perugia, Italy
adalberto.bonincontro@uniroma1.it

CYA Italy

SO CHEMICAL PHYSICS, (6 JUN 2005) Vol. 312, No. 1-3, pp. 55-60.
ISSN: 0301-0104.

PB ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.

DT Article; Journal

LA English

REC Reference Count: 22

ED Entered STN: 21 Apr 2005
Last Updated on STN: 21 Apr 2005
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

ED Entered STN: 21 Apr 2005
Last Updated on STN: 21 Apr 2005

AB The complex dielectric permittivity of aqueous solutions of low-molecular weight **DNA** (0.5-1 kbp) in the presence of the cationic **surfactant** cetyltrimethylammonium bromide (CTAB) has been measured in the frequency range from 0.1 to 100 MHz, at the temperature of 25 degrees C.

The DNA concentration was 0.64 x 10(-3) M in terms of phosphates and the CTAB concentration was varied from 1.3 x 10(-5) to 9 X 10(-4) M.

The dielectric data have been analyzed in terms of a single dielectric dispersion and discussed on the basis of a model involving the fluctuation of counter-ions along short segments of the DNA chains. Viscosity and surface tension measurements on DNA/CTAB solutions are also reported. The results show that CTAB binds as a single monomer to the DNA phosphate sites and that there is a release of one Na+ ion per CTAB bound to a

phosphate site. Appreciable modification of the DNA conformation subsequent to the formation of the complex is also evidenced. (c) 2004 Elsevier B.V. All rights reserved.

L102 ANSWER 36 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2004:662521 SCISEARCH
GA The Genuine Article (R) Number: 837VS
TI Influence of **DNA** adsorption and **DNA**/cationic **surfactant** coadsorption on the interaction forces between hydrophobic surfaces
AU Braem A D; Campos-Teran J (Reprint); Lindman B
CS Lund Univ, Ctr Chem & Chem Engn, Dept Chem Phys, Box 124, SE-22100 Lund, Sweden (Reprint); Lund Univ, Ctr Chem & Chem Engn, Dept Chem Phys, SE-22100 Lund, Sweden
jose.campos@fkem1.lu.se
CYA Sweden
SO LANGMUIR, (20 JUL 2004) Vol. 20, No. 15, pp. 6407-6413.
ISSN: 0743-7463.
PB AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA.
DT Article; Journal
LA English
REC Reference Count: 30
ED Entered STN: 13 Aug 2004
Last Updated on STN: 13 Aug 2004
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 13 Aug 2004
Last Updated on STN: 13 Aug 2004
AB The forces between hydrophobic surfaces with physisorbed **DNA** are markedly and irreversibly altered by exposure to **DNA**/**cetyltrimethylammonium** bromide (CTAB) mixtures. In this colloidal probe atomic force microscopy study of the interactions between a hydrophobic polystyrene particle and an octadecyl-trimethylethoxysilane-modified mica surface in sodium bromide solutions, we measure distinct changes in colloidal forces depending on the existence and state of an adsorbed layer of DNA or CTAB-DNA complexes. For bare hydrophobic surfaces, a monotonically attractive approach curve and very large adhesion are observed. When DNA is adsorbed at low bulk concentrations, a long-range repulsive force dominates the approach, but on retraction some adhesion persists and DNA bridging is clearly observed. When the DNA solution is replaced with a CTAB-DNA mixture at relative low CTAB concentration, the length scale of the repulsive force decreases, the adhesion due to hydrophobic interactions greatly decreases, and bridging events disappear. Finally, when the surface is rinsed with NaBr solution, the length scale of the repulsive interaction increases modestly, and only a very tiny adhesion remains. These pronounced changes in the force behavior are consistent with CTAB-induced DNA compaction accompanied by increased DNA adsorption, both of which are partially irreversible.

L102 ANSWER 37 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2004:220487 SCISEARCH
GA The Genuine Article (R) Number: 776RV
TI In-situ observation of the aggregated morphology and interaction of **dialkyldimethylammonium** bromide with **DNA** at air/water interface by Brewster angle microscopy
AU Sun L; Xu M; Hou X L; Wu L X (Reprint)
CS Jilin Univ, Minist Educ, Key Lab Supramol Struct & Mat, Changchun 130023, Peoples R China (Reprint)
CYA Peoples R China

SO MATERIALS LETTERS, (MAR 2004) Vol. 58, No. 9, pp. 1466-1470.
ISSN: 0167-577X.
PB ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
DT Article; Journal
LA English
REC Reference Count: 19
ED Entered STN: 12 Mar 2004
Last Updated on STN: 12 Mar 2004
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 12 Mar 2004
Last Updated on STN: 12 Mar 2004
AB The adsorption of **DNA** on the Langmuir film of a cationic **surfactant**, **dioctadecyldimethylammonium** bromide (DODA-Br), and the change of the aggregation morphology of the composite monolayer with respect to surface pressure have been investigated by Brewster angle microscopy (BAM). In contrast with the case of DODA-Br on pure water subphase, when DNA was dispersed into subphase, its adsorption to the interface monolayer through electrostatic interaction decreases the charge density and therefore promotes the formation of domain at low surface pressure. In addition, the electrostatic interaction changed the phase morphology of DODA-Br Langmuir monolayer under different surface pressure, that is, from flower-shaped crystalline domain on the pure water subphase to circular domain on the subphase dispersed with DNA. The result also shows that the monolayer of the composite at air/water interface under the high pressure is not homogeneous, but consists of incompletely fused domains. For the Langmuir film of the surfactant with shorter alkyl-chains, similar morphology can be observed both under the high and low surface pressure. But the tight-stacked circular domain is no longer observed. (C) 2003 Elsevier B.V. All rights reserved.

L102 ANSWER 38 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2004:600072 SCISEARCH
GA The Genuine Article (R) Number: 833CQ
TI **DNA-Surfactant** interactions, compaction, condensation, decompaction and phase separation
AU Dias R; Rosa M; Pais A C; Miguel M; Lindman B (Reprint)
CS Univ Coimbra, Dept Chem, P-3004535 Coimbra, Portugal (Reprint); Ctr Chem & Chem Engn, Dept Phys Chem 1, S-22100 Lund, Sweden
CYA Portugal; Sweden
SO JOURNAL OF THE CHINESE CHEMICAL SOCIETY, (JUN 2004) Vol. 51, No. 3, pp. 447-469.
ISSN: 0009-4536.
PB CHINESE CHEM SOC, PO BOX 609, TAIPEI 10099, TAIWAN.
DT General Review; Journal
LA English
REC Reference Count: 115
ED Entered STN: 23 Jul 2004
Last Updated on STN: 23 Jul 2004
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 23 Jul 2004
Last Updated on STN: 23 Jul 2004
AB Recent investigations-of the interaction between **DNA** and alkyltrimethyl **ammonium** bromides of various chain lengths are reviewed. Several techniques have been used such as phase map determinations, fluorescence microscopy, and electron microscopy. Dissociation of the **DNA-surfactant** complexes, by the addition of anionic **surfactant**, has received special attention.
Precipitation maps for **DNA**-cationic **surfactant**' systems were evaluated by turbidimetry for different salt concentrations,

temperatures and **surfactant** chain lengths. Single-stranded **DNA** molecules precipitate at lower **surfactant** concentrations than double-helix ones. It was also observed that these systems precipitate for very low concentrations of both **DNA** and **surfactant**, and that the extension of the two-phase region increases for longer chain **surfactants**; these observations correlate well with fluorescence microscopy results, monitoring the system at a single molecule level.

Dissociation of the **DNA**-cationic **surfactant** complexes and a concomitant release of **DNA** was achieved by addition of anionic **surfactants**. The unfolding of **DNA** molecules, previously compacted with cationic **surfactant**, was shown to be strongly dependent on the anionic **surfactant** chain length; lower amounts of a longer chain **surfactant** were needed to release **DNA** into solution. On the other hand, no dependence on the hydrophobicity of the compacting agent was observed. The structures of the aggregates formed by the two **surfactants**, after the interaction with **DNA**, were imaged by cryogenic transmission electron microscopy. It is possible to predict the structure of the aggregates formed by the surfactants, like vesicles, from the phase behaviour of the mixed surfactant systems.

The compaction of a medium size polyanion with shorter polycations was furthermore studied by means of Monte Carlo simulations. The polyanion chain suffers a sudden collapse as a function of the condensing agent concentration and of the number of charges on the molecules. Further increase of the concentration gives an increase of the degree of compaction. The compaction was found to be associated with the polycations promoting bridging between different sites of the polyanion. When the total charge of the polycations was lower than that of the polyanion, a significant translational motion of the compacting agent along the polyanion was observed, producing only a small-degree of intrachain segregation. However, complete charge neutralization was not a prerequisite to achieve compacted forms.

L102 ANSWER 39 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2002:987194 SCISEARCH
GA The Genuine Article (R) Number: 621YH
TI **DNA** interaction with catanionic vesicles
AU Dias R S; Lindman B; Miguel M G (Reprint)
CS Univ Coimbra, Dept Chem, P-3004535 Coimbra, Portugal (Reprint); Ctr Chem & Chem & Engn, S-22100 Lund, Sweden
CYA Portugal; Sweden
SO JOURNAL OF PHYSICAL CHEMISTRY B, (5 DEC 2002) Vol. 106, No. 48, pp. 12600-12607.
ISSN: 1520-6106.
PB AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA.
DT Article; Journal
LA English
REC Reference Count: 32
ED Entered STN: 27 Dec 2002
Last Updated on STN: 27 Dec 2002
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 27 Dec 2002
Last Updated on STN: 27 Dec 2002
AB DNA-cationic liposome complexes as possible vehicles for gene delivery is currently an important issue. In this work, the interaction between DNA and thermodynamically stable, spontaneously formed, catanionic vesicles with a net positive charge is studied. A phase map was drawn for the aqueous system of **DNA** and positively charged vesicles,

composed of CTAB (**cetyltrimethylammonium** bromide) and SOS (sodium octyl sulfate), and showed, as expected, a strong associative phase behavior with the formation of a precipitate. A two-phase region was observed over all the studied concentrations. For **DNA-surfactant** mixing ratios, [**DNA**]/ [S+] below 1.3 by charge, we found, by optical and electron microscopy, a coexistence between undisturbed vesicles and **DNA-surfactant** complexes. In samples with a higher excess of DNA, only DNA-vesicle complexes were observed, in solution. The structure of these complexes was studied by both small-angle X-ray diffraction (SAXS) and cryogenic transmission electron microscopy (cryo-TEM), and a short-range lamellar structure composed of amphiphile bilayers with DNA molecules ordered and packed between these stacks was found. This type of structure has already been mentioned in the literature as being the most frequently found structure for DNA-liposome mixtures and shows that the vesicles we used, having major advantages with respect to preparation and stability, have similar behavior and can thus be successfully used as model systems. We observed, however, an interesting difference in comparison with previously studied systems. Thus, the addition of DNA in excess to the samples leads not to the coexistence of DNA-vesicle complexes and DNA, as observed before, but to a probable inclusion of **DNA** in excess in the complexes and therefore to a coexistence of complexes and anionic **surfactant** micelles expelled from the bilayers.

L102 ANSWER 40 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2002:673479 SCISEARCH
GA The Genuine Article (R) Number: 580FL
TI Gemini **surfactant/DNA** complex monolayers at the air-water interface: Effect of **surfactant** structure on the assembly, stability, and topography of monolayers
AU Chen X D; Wang J B; Shen N; Luo Y H; Li L; Liu M H (Reprint); Thomas R K
CS Chinese Acad Sci, Inst Chem, Ctr Mol Sci, Lab Colloid & Interface Sci, Beijing 100080, Peoples R China (Reprint); Chinese Acad Sci, Ctr Mol Sci, Inst Chem, State Key Lab Polymer Phys & Chem, Beijing 100080, Peoples R China; Phys & Theoret Chem Lab, Oxford OX1 3QZ, England
CYA Peoples R China; England
SO LANGMUIR, (6 AUG 2002) Vol. 18, No. 16, pp. 6222-6228. ISSN: 0743-7463.
PB AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA.
DT Article; Journal
LA English
REC Reference Count: 60
ED Entered STN: 30 Aug 2002
Last Updated on STN: 30 Aug 2002
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 30 Aug 2002
Last Updated on STN: 30 Aug 2002
AB The formation of complex monolayers between gemini surfactants (CsH2s-alpha,omega-(CmH2m+1N+(CH3)(2)Br-)(2), abbreviated as C12-Cs-C12, s = 3, 4, 6, 8, 10, 12) and DNA at the air-water interface was systematically investigated. The polyion-complex monolayers formed in situ through the electrostatic attraction between the **ammonium** groups of gemini **surfactants** and the phosphate groups of **DNA**. The effect of surfactant spacer length on the surface properties was investigated. A turning point of the surface properties (extrapolated molecular area and collapse pressure) of the gemini **surfactant/DNA** complex monolayers appears when the **surfactant** spacer is above a certain length (s = 6). The gemini surfactant spacer taking a reverse U-shape conformation at the air-water

interface is proposed to interpret the turning point. A quantitative kinetic analysis of the decay curves further confirms that the turning point appears at the surfactant spacer above its critical length, s = 6. Moreover, the surface topographies of the gemini **surfactant/ DNA** complex monolayers were controlled by the spacer length of the gemini **surfactants**, which may be important in surface patterning and nanofabrication.

L102 ANSWER 41 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2002:920403 SCISEARCH
GA The Genuine Article (R) Number: 614UR
TI Condensed lamellar phase in ternary **DNA**-DLPC-cationic gemini **surfactant** system: a small-angle synchrotron X-ray diffraction study
AU Uhrikovi D; Rapp G; Balgavy P (Reprint)
CS Comenius Univ, Fac Pharm, Dept Phys Chem Drugs, Odbojarov 10, SK-83232 Bratislava, Slovakia (Reprint); Comenius Univ, Fac Pharm, Dept Phys Chem Drugs, SK-83232 Bratislava, Slovakia; DESY, Hamburg Outstn, European Mol Biol Lab, D-22603 Hamburg, Germany
CYA Slovakia; Germany
SO BIOELECTROCHEMISTRY, (NOV 2002) Vol. 58, No. 1, pp. 87-95. ISSN: 1567-5394.
PB ELSEVIER SCIENCE SA, PO BOX 564, 1001 LAUSANNE, SWITZERLAND.
DT Article; Journal
LA English
REC Reference Count: 87
ED Entered STN: 6 Dec 2002
Last Updated on STN: 6 Dec 2002
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 6 Dec 2002
Last Updated on STN: 6 Dec 2002
AB We report on a small-angle synchrotron X-ray diffraction study of dilauroylphosphatidylcholine (DLPC) liposomes aggregated with high molecular **DNA** in the presence of 1,4-**butanediammonium** -N,N"-dilauryl-N,N,N',N'-tetramethyl gemini surfactant cations (C12GS). The aggregates prepared at the DLPC/C12GS/DNA phosphate group = 2:1:1.6 molar ratio in 0.0015 mol l(-1) NaCl aqueous solution exhibit Bragg reflections due to lamellar lipid bilayer stacking and the Bragg reflection typical of one-dimensional DNA lattice with parallel strands intercalated between lipid bilayers. In this condensed fluid lamellar L-alpha(c) phase, the interactions between DNA and charged bilayers damp the thermally induced bilayer undulations. The diffraction data obtained with the mixture of DLPC liposomes and DNA (at DNA phosphate group/DLPC = 0.8:1 molar ratio) indicate a DNA-lipid interaction in the absence of C12GS. (C) 2002 Elsevier Science B.V. All rights reserved.

L102 ANSWER 42 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2000:904208 SCISEARCH
GA The Genuine Article (R) Number: 376VR
TI **DNA** phase behavior in the presence of oppositely charged **surfactants**
AU Dias R; Mel'nikov S; Lindman B; Miguel M G (Reprint)
CS Univ Coimbra, Dept Quim, P-3004 Coimbra, Portugal (Reprint); Ctr Chem & Chem Engn, S-22100 Lund, Sweden; Unilever Res Labs Vlaardingen, NL-3130 AC Vlaardingen, Netherlands
CYA Portugal; Sweden; Netherlands
SO LANGMUIR, (28 NOV 2000) Vol. 16, No. 24, pp. 9577-9583. ISSN: 0743-7463.

PB AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA.
DT Article; Journal
LA English
REC Reference Count: 41
ED Entered STN: 2000
Last Updated on STN: 2000
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 2000
Last Updated on STN: 2000
AB The interaction between **DNA** and **alkyltrimethylammonium** bromides of various chain lengths has been investigated. It is known that these systems phase separate with the formation of a precipitate; this important feature allows, for example, purification of nucleic acids. Phase maps were drawn for the aqueous systems illustrating the associative phase separation. The boundary of the two-phase region for the dilute part; of the phase diagram was evaluated by turbidimetry, in both the absence and presence of salt. The extension of the precipitate region increases strongly with the surfactant alkyl chain length, and we observed no redissolution with an excess of surfactant. The addition of NaBr led to novel interesting findings. The phase diagram studies were correlated with the single molecule conformational behavior of the same systems as studied for very diluted solutions by fluorescence microscopy. **DNA** exhibits a discrete phase transition in the presence of cationic **surfactants** from coils to globules. Results demonstrate that the coil-globule coexistence interval is narrow for CTAB and becomes wider for the shorter-chained surfactant. The findings for flexible polyions of lower charge density differ qualitatively from what we find here for DNA. For the first, large amounts of surfactant have to be added before phase separation occurs, and the change in the polyion extension is gradual, indicating an essentially uniform distribution of surfactant aggregates among the different polyions. For **DNA**, the very low values of **surfactant** concentration at which phase separation starts demonstrate a different binding interaction; as binding to a polyion starts, further binding is facilitated, and one DNA molecule is saturated before binding starts at another.

L102 ANSWER 43 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2001:333350 SCISEARCH
GA The Genuine Article (R) Number: 423TY
TI A simple and effective separation and purification procedure for **DNA** fragments using **Dodecyltrimethylammonium** bromide
AU McLoughlin D M (Reprint); O'Brien J; McManus J J; Gorelov A V; Dawson K A
CS Univ Coll Dublin, Dept Chem, Irish Ctr Colloid Sci & Biomat, Dublin 4, Ireland; Russian Acad Sci, Inst Theoret & Expt Biophys, Pushchino 142292, Moscow Region, Russia
CYA Ireland; Russia
SO BIOSEPARATION, (2000) Vol. 9, No. 5, pp. 307-313.
ISSN: 0923-179X.
PB KLUWER ACADEMIC PUBL, VAN GODEWIJCKSTRAAT 30, 3311 GZ DORDRECHT, NETHERLANDS.
DT Article; Journal
LA English
REC Reference Count: 11
ED Entered STN: 4 May 2001
Last Updated on STN: 4 May 2001
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 4 May 2001
Last Updated on STN: 4 May 2001

AB In this work we describe a simple two step separation procedure for the separation and purification of short DNA fragments. The first step involves precipitating the **DNA** using the cationic **surfactant dodecyltrimethylammonium** bromide. **Dodecyltrimethylammonium** bromide, unlike **cetyltrimethylammonium** bromide will not precipitate **DNA** before complexation is complete thus providing a high purity DNA. The second step involves dissolution of the **DNA**-**dodecyltrimethylammonium** complex in 75% ethanol, followed by precipitation of the Sodium-**DNA** salt, by titrating in a salt solution. This method is particularly suited to purification of short fragments as it does not require high salt concentrations in the ethanol precipitation step, which can be damaging for short DNA. The ability of **dodecyltrimethylammonium** bromide to remove ethidium bromide from intercalation sites on the **DNA** is also discussed.

L102 ANSWER 44 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1998:157915 SCISEARCH
GA The Genuine Article (R) Number: YX631
TI Fluorescence quenching of ethidium ion by porphyrin cations and **quaternary ammonium surfactants** in the presence of **DNA**
AU Jin W J; Wei Y S; Liu C S; Shen G L (Reprint); Yu R Q
CS Hunan Univ, Chem & Chem Engn Coll, Inst Chemometr & Chem Sensing Tech, Changsha 410082, Peoples R China (Reprint); Shanxi Univ, Dept Chem, Taiyuan 030006, Peoples R China
CYA Peoples R China
SO SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY, (DEC 1997) Vol. 53, No. 14, pp. 2701-2707.
ISSN: 1386-1425.
PB PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.
DT Letter; Journal
LA English
REC Reference Count: 8
ED Entered STN: 1998
Last Updated on STN: 1998
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 1998
Last Updated on STN: 1998
AB Fluorescence quenching of free and **DNA**-bound ethidium bromide (EE) by a number of **quaternary ammonium** and other compounds was studied. For free EB or bound EB at lower DNA concentration the fluorescence quenching follows the Stern-Volmer equation and at higher DNA concentration follows an exponential model. At least at low quencher concentrations the quenching efficiency varies with DNA or NaCl concentrations and is about 100 times greater for bound than free EB. The quenching pathways may involve energy transfer and conformational loosening or distortion of the DNA helix in addition to possible electron transfer. (C) 1997 Elsevier Science B.V.

L102 ANSWER 45 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1997:130666 SCISEARCH
GA The Genuine Article (R) Number: WG506
TI Folding of long **DNA** chains in the presence of **distearyldimethylammonium** bromide and unfolding induced by neutral liposomes
AU Melnikov S M (Reprint); Sergeyev V G; Melnikova Y S; Yoshikawa K

CS NAGOYA UNIV, GRAD SCH HUMAN INFORMAT, DIV INFORM NAT SCI, NAGOYA, AICHI 46401, JAPAN; MOSCOW MV LOMONOSOV STATE UNIV, FAC CHEM, DEPT POLYMER SCI, MOSCOW 119899, RUSSIA
CYA JAPAN; RUSSIA
SO JOURNAL OF THE CHEMICAL SOCIETY-FARADAY TRANSACTIONS, (21 JAN 1997) Vol. 93, No. 2, pp. 283-288.
ISSN: 0956-5000.
PB ROYAL SOC CHEMISTRY, THOMAS GRAHAM HOUSE, SCIENCE PARK, MILTON ROAD, CAMBRIDGE, CAMBS, ENGLAND CB4 4WF.
DT Article; Journal
FS PHYS
LA English
REC Reference Count: 46
ED Entered STN: 1997
Last Updated on STN: 1997
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
ED Entered STN: 1997
Last Updated on STN: 1997
AB The interaction between large duplex T4DNA (166 kbp) and a synthetic dialkyl cationic lipid, distearyldimethylammonium bromide (D(18)DAB), was studied using fluorescence microscopy for single-chain observation. The dependence of the higher-order structure of single T4DNAs on the surfactant concentration was evaluated, starting at extremely low values (1.0 x 10(-8) M). We found that individual T4DNA chains undergo a marked discrete transition between elongated coil and compact globule states, and that there is a very wide region of coexistence (about two orders of magnitude of the surfactant concentration) for the coiled and globular T4DNAs. We propose a simple theoretical model for assessing the relationship between the binding equilibrium and the coil-globule transition. In addition, we found that liposomes composed of neutral phospholipids induce unfolding of **DNA** compacted by a cationic **surfactant.**

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=> d que l51
L42             QUE  ABB=ON  PLU=ON  GEALL, A?/AU
L43             QUE  ABB=ON  PLU=ON  ENAS, J?/AU
L45             QUE  ABB=ON  PLU=ON  ?QUATERN?(3A)(?NITROGEN? OR N OR ?AM
                INE? OR ?AMMONIUM? OR ?AMINIUM?)
L46             QUE  ABB=ON  PLU=ON  ?AMMONIUM? OR ?AMINIUM?
L47             QUE  ABB=ON  PLU=ON  ?SURFACT?
L48          55 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L42 OR L43)
L49           3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L48 AND L47
L50          14 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L48 AND (L45 OR L46)
L51           3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L49 AND L50


=> d que l61
L42             QUE  ABB=ON  PLU=ON  GEALL, A?/AU
L43             QUE  ABB=ON  PLU=ON  ENAS, J?/AU
L61           6 SEA FILE=WPIX ABB=ON  PLU=ON  (L42 OR L43)


=> d que l70
L42             QUE  ABB=ON  PLU=ON  GEALL, A?/AU
L43             QUE  ABB=ON  PLU=ON  ENAS, J?/AU
L45             QUE  ABB=ON  PLU=ON  ?QUATERN?(3A)(?NITROGEN? OR N OR ?AM
                INE? OR ?AMMONIUM? OR ?AMINIUM?)
L46             QUE  ABB=ON  PLU=ON  ?AMMONIUM? OR ?AMINIUM?
L69          18 SEA FILE=MEDLINE ABB=ON  PLU=ON  (L42 OR L43)
L70           5 SEA FILE=MEDLINE ABB=ON  PLU=ON  L69 AND (L45 OR L46)


=> d que l81
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L43             QUE  ABB=ON  PLU=ON  ENAS, J?/AU
L45             QUE  ABB=ON  PLU=ON  ?QUATERN?(3A)(?NITROGEN? OR N OR ?AM
                INE? OR ?AMMONIUM? OR ?AMINIUM?)
L46             QUE  ABB=ON  PLU=ON  ?AMMONIUM? OR ?AMINIUM?
L80          28 SEA FILE=EMBASE ABB=ON  PLU=ON  (L42 OR L43)
L81           3 SEA FILE=EMBASE ABB=ON  PLU=ON  L80 AND (L45 OR L46)


=> d his l94

     (FILE 'BIOSIS, PASCAL, JICST-EPLUS, CABA, LIFESCI, BIOENG, BIOTECHNO,
     BIOTECHDS, DRUGU, DRUGB, VETU, VETB, SCISEARCH, CONF, CONFSCI, DISSABS'
     ENTERED AT 13:07:44 ON 14 MAR 2006)
L94          20 S L92 OR L93

=> d que l94
L42             QUE  ABB=ON  PLU=ON  GEALL, A?/AU
L43             QUE  ABB=ON  PLU=ON  ENAS, J?/AU
L45             QUE  ABB=ON  PLU=ON  ?QUATERN?(3A)(?NITROGEN? OR N OR ?AM
                INE? OR ?AMMONIUM? OR ?AMINIUM?)
L46             QUE  ABB=ON  PLU=ON  ?AMMONIUM? OR ?AMINIUM?
L47             QUE  ABB=ON  PLU=ON  ?SURFACT?
L91         177 SEA (L42 OR L43)
L92          20 SEA L91 AND (L45 OR L46)
L93           1 SEA L92 AND (L47 OR (SURFACE(3A)(ACTING OR ACTION)))
L94          20 SEA L92 OR L93


=> dup rem l51 l61 l70 l81 l94
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PROCESSING COMPLETED FOR L61
PROCESSING COMPLETED FOR L70
PROCESSING COMPLETED FOR L81
PROCESSING COMPLETED FOR L94
L103          18 DUP REM L51 L61 L70 L81 L94 (19 DUPLICATES REMOVED)
                 ANSWERS '1-3' FROM FILE HCAPLUS
                 ANSWERS '4-7' FROM FILE WPIX
                 ANSWERS '8-12' FROM FILE MEDLINE
                 ANSWERS '13-14' FROM FILE BIOSIS
                 ANSWERS '15-16' FROM FILE PASCAL
                 ANSWER '17' FROM FILE DRUGU
                 ANSWER '18' FROM FILE SCISEARCH

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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Mar 10, 2006 (20060310/UP).
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=> d ibib ed ab l103 1-18
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, WPIX, MEDLINE, BIOSIS, PASCAL, DRUGU, SCISEARCH' - CONTINUE? (Y)/N:y

L103 ANSWER 1 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2004:589411 HCAPLUS
DOCUMENT NUMBER: 141:128864
TITLE: Method for producing sterile polynucleotide-based medicaments
INVENTOR(S): **Geall, Andrew; Enas, Joel**
PATENT ASSIGNEE(S): Vical Incorporated, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060363	A1	20040722	WO 2003-US38119	20031202
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2508281	AA	20040722	CA 2003-2508281	20031202
AU 2003293196	A1	20040729	AU 2003-293196	20031202
US 2004162256	A1	20040819	US 2003-725015	20031202
EP 1581201	A1	20051005	EP 2003-790187	20031202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.: US 2002-435303P P 20021223
WO 2003-US38119 W 20031202

ED Entered STN: 23 Jul 2004
AB The present invention relates to a novel method for producing formulations comprising a polynucleotide, block copolymer and cationic **surfactant.** The formulations produced by the current method are suitable for use in polynucleotide-based medicaments. A suitable method of production disclosed herein addnl. comprises cold filtering a mixture of a polynucleotide, block copolymer and cationic **surfactant**, thereby sterilizing the formulation. The method of the present invention also eliminates the need for thermal cycling of the formulation, thereby reducing the time and expense required to produce large quantities of a formulation during com. manufacturing The present invention also relates to novel cationic lipids used as **surfactants.** For example, a naked VR4700 plasmid DNA (5 mg/mL) in PBS was formulated with poloxamer CRL-1005 (7.5 mg/mL) and benzalkonium chloride (0.3 mM), using the thermal cycling and filtration process. Particle size of the diluted poloxamer formulation were maintained by thawing the formulation as a concentrated stock solution and then diluting to the required concentration A dose-dependent responses of CD4+ and
CD8+T cells of mice vaccinated with increasing amts. of naked VR4700

plasmid DNA or VR4700 formulated with CRL-1005 and benzalkonium chloride was observed

L103 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2004:589334 HCAPLUS
DOCUMENT NUMBER: 141:128852
TITLE: Method for freeze-drying nucleic acid/block copolymer/cationic **surfactant** complexes
INVENTOR(S): **Geall, Andrew**
PATENT ASSIGNEE(S): Vical Incorporated, USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060059	A2	20040722	WO 2003-US38116	20031202
WO 2004060059	A3	20051222		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2508279	AA	20040722	CA 2003-2508279	20031202
US 2004157789	A1	20040812	US 2003-725009	20031202
EP 1578193	A2	20050928	EP 2003-790186	20031202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.: US 2002-435273P P 20021223
WO 2003-US38116 W 20031202

ED Entered STN: 23 Jul 2004
AB This invention relates generally to the freeze-drying of formulations comprising a polynucleotide, a block copolymer and a cationic **surfactant.** In the presence of a cryoprotectant or bulking agent, a formulation can be freeze-dried, whereby upon reconstitution of the dried formulation, the microparticles maintain their optimal size and aggregation or fusion is avoided. For example, a DNA/poloxamer/benzalkonium chloride (BAK) formulation (5 mg/mL DNA, 7.5 mg/ mL CRL-1005, 0.3 mM BAK) in 10% sucrose and 10 mM sodium phosphate vehicle was prepared and lyophilized.

L103 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:863414 HCAPLUS
DOCUMENT NUMBER: 143:344782
TITLE: A DNA-based vaccine for the prevention of human cytomegalovirus-associated diseases
AUTHOR(S): Selinsky, C.; Luke, C.; Wloch, M.; **Geall, A.** ; Hermanson, G.; Kaslow, D.; Evans, T.
CORPORATE SOURCE: Vical Incorporated, San Diego, CA, USA
SOURCE: Human Vaccines (2005), 1(1), 16-23
CODEN: HVUAAK; ISSN: 1554-8600
PUBLISHER: Landes Bioscience

DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 23 Aug 2005
AB Multiple lines of evidence indicate that in the transplant population human cytomegalovirus (HCMV) infection and its associated diseases are controlled by humoral and cellular immune responses similar to those that arise in asymptomatic, healthy individuals during a naturally-acquired infection. The dominant antibody response to HCMV is to the major surface glycoprotein B (gB) and the dominant cellular immune response is to the tegument phosphoprotein (pp65). We propose that an immunotherapeutic plasmid DNA (pDNA) vaccination approach that induces the requisite responses to major immunol. targets of HCMV may provide relief from HCMV-associated diseases in the transplant setting. We have developed gene-based immunotherapeutic products consisting of pDNAs encoding gB and pp65 of HCMV. When tested individually in mice, both pDNAs were highly immunogenic. Relative to vaccination with either gB or pp65 pDNA delivered alone, vaccination with gB and pp65 pDNAs delivered together in phosphate-buffered saline (PBS) elicited reduced antibody and T cell responses to each antigen. Formulating this bivalent vaccine with a poloxamer-based delivery system (VF-P1205-02A), however, significantly increased the antigen-specific immune responses relative to those induced with the bivalent vaccine in PBS, and completely abrogated the decrease in pp65-specific T cell responses observed in mice covaccinated with the pDNAs in PBS. Based on these data, and a favorable safety and toxicity profile in preclin. studies, the bivalent HCMV vaccine consisting of gB and pp65 pDNAs delivered with VF-P1205-02A has advanced to human clin. trials.
REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L103 ANSWER 4 OF 18 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2006-047246 [05] WPIX
DOC. NO. CPI: C2006-017705
TITLE: New polynucleotides comprising nucleic acid fragments encoding an influenza virus protein, useful in preparing a composition for treating or preventing influenza infection.
DERWENT CLASS: B04 D16
INVENTOR(S): EVANS, T G; **GEALL, A J**; JIMENEZ, G S; LUKE, C J; VILALTA, A; WLOCH, M K; **GEALL, A**; LUKE, C
PATENT ASSIGNEE(S): (EVAN-I) EVANS T G; (GEAL-I) GEALL A J; (JIME-I) JIMENEZ G S; (LUKE-I) LUKE C J; (VILA-I) VILALTA A; (WLOC-I) WLOCH M K; (VICA-N) VICAL INC
COUNTRY COUNT: 111
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2005116270	A2	20051208	(200605)*	EN	493
RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
US 2006024670	A1	20060202	(200610)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005116270	A2	WO 2005-US17157	20050518
US 2006024670	A1 Provisional	US 2004-571854P	20040518
		US 2005-131479	20050518

PRIORITY APPLN. INFO: US 2004-571854P 20040518; US 2005-131479 20050518

ED 20060120

AB WO2005116270 A UPAB: 20060120

NOVELTY - New isolated polynucleotides comprising nucleic acid fragments encoding at least 20 contiguous amino acids of 498, 252, 97, 522 or 560-amino acid sequence, where the nucleic acid fragment is a fragment of a codon-optimized coding region for the encoded polypeptide

DETAILED DESCRIPTION - The new isolated polynucleotides comprises a nucleic acid fragment which encodes at least 20 contiguous amino acids of the 498-amino acid sequence (aas) (SEQ ID NO: 2); 252 aas (SEQ ID NO: 4); 97 aas (SEQ ID NO:5); 522 aas (SEQ ID NO:7); 522aas (SEQ ID NO:9); 560 aas (SEQ ID NO:16); 498aas (SEQ ID NO:76), where the nucleic acid fragment is a fragment of a codon-optimized coding region for the polypeptide of SEQ ID NOs: 2, 4, 5, 7, 9, 16 and 76.

INDEPENDENT CLAIMS are also included for the following:

(1) a vector comprising the polynucleotides;

(2) a composition comprising the polynucleotides, polypeptides, vectors or plasmids and a carrier;

(3) a method of treating or preventing influenza infection in a vertebrate;

(4) a method of eliciting an immune response;

(5) an isolated polypeptide comprising at least 20 contiguous amino acids of the consensus amino acid sequence of the 498-amino acid sequence (SEQ ID NO: 76) or an amino acid sequence at least 90% identical to SEQ ID NO:76, where the at least 150 contiguous amino acids, upon administration to a vertebrate, elicits a detectable immune response against SEQ ID NO: 76;

ACTIVITY - Virucide. No biological data given.

MECHANISM OF ACTION - Vaccine.

USE - The polynucleotides are useful in preparing a composition for treating or preventing influenza infection (claimed).

Dwg.0/15

L103 ANSWER 5 OF 18 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-525777 [50] WPIX

DOC. NO. CPI: C2004-193450

TITLE: New polynucleotide comprising a nucleic acid fragment of a codon-optimized coding region for the human cytomegalovirus (HCMV) pp65 polypeptide, useful in preparing a composition for treating or preventing HCMV infection in a human.

DERWENT CLASS: B04 D16

INVENTOR(S): **GEALL, A J**; HERMANSON, G G; WLOCH, M K

PATENT ASSIGNEE(S): (VICA-N) VICAL INC

COUNTRY COUNT: 108

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004058166	A2	20040715	(200450)*	EN	231

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE
DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM
PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US
UZ VC VN YU ZA ZM ZW

US 2004209241 A1 20041021 (200470)
AU 2003301148 A1 20040722 (200476)
EP 1587816 A2 20051026 (200570) EN
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV
MC MK NL PT RO SE SI SK TR

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004058166	A2	WO 2003-US40685	20031219
US 2004209241	A1 Provisional	US 2002-435549P	20021223
		US 2003-738986	20031219
AU 2003301148	A1	AU 2003-301148	20031219
EP 1587816	A2	EP 2003-814236	20031219
		WO 2003-US40685	20031219

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003301148	A1 Based on	WO 2004058166
EP 1587816	A2 Based on	WO 2004058166

PRIORITY APPLN. INFO: US 2002-435549P 20021223; US 2003-738986 20031219

ED 20040805

AB WO2004058166 A UPAB: 20040805

NOVELTY - An isolated polynucleotide comprising a nucleic acid encoding at least 50 contiguous amino acids of the 561-amino acid sequence capable of eliciting an immune response against human cytomegalovirus (HCMV), is new. The nucleic acid is a fragment of a codon-optimized coding region for the HCMV pp65 polypeptide; where the codon-optimized coding region is identical to the wild-type coding region.

DETAILED DESCRIPTION - An isolated polynucleotide comprises a nucleic acid encoding at least 50 contiguous amino acids of the 561-amino acid sequence capable of eliciting an immune response against human cytomegalovirus (HCMV). The nucleic acid is a fragment of a codon-optimized coding region for the HCMV pp65 polypeptide; where the codon-optimized coding region is identical to the wild-type coding region, except:

(a) the ala-GCG codons are changed to GCC;
(b) the arg-CGT codons are changed to CGC;
(c) the pro-CCG codons are changed to CCC5 CCT, or CCA;
(d) the ser-TCG codons are changed to TCC; or
(e) the thr-ACG codons are changed to ACC.

INDEPENDENT CLAIMS are also included for:
(1) a vector comprising the polynucleotide;
(2) a composition comprising the polynucleotide and a carrier;
(3) a method for treating or preventing HCMV infection in a human; and
(4) a method of eliciting an immune response.

ACTIVITY - Virucide.
No biological data given.
MECHANISM OF ACTION - Gene therapy; Vaccine.

USE - The polynucleotide is useful in preparing a composition for treating or preventing HCMV infection in a human (claimed).
Dwg.0/0

L103 ANSWER 6 OF 18 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-007077 [01] WPIX
DOC. NO. CPI: C2001-001734
TITLE: Bipolar lipids for delivery of bioactive substances.
DERWENT CLASS: B04 B07 D16
INVENTOR(S): BAKER, T S; BLAGBROUGH, I; CATTERALL, C F; EATON, M A W; **GEALL, A J**; NORMAN, T J; WEIR, A N C
PATENT ASSIGNEE(S): (CLLT) CELLTECH THERAPEUTICS LTD; (CELL-N) CELLTECH R & D LTD
COUNTRY COUNT: 93
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000064858	A1	20001102	(200101)*	EN	57
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000044212	A	20001110	(200109)		
EP 1187807	A1	20020320	(200227)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000064858	A1	WO 2000-GB1613	20000426
AU 2000044212	A	AU 2000-44212	20000426
EP 1187807	A1	EP 2000-925490	20000426
		WO 2000-GB1613	20000426

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000044212	A Based on	WO 2000064858
EP 1187807	A1 Based on	WO 2000064858

PRIORITY APPLN. INFO: GB 1999-24257 19991013; GB 1999-9582 19990426
ED 20001230
AB WO 200064858 A UPAB: 20001230
NOVELTY - Bipolar lipids (I) comprising a cationic head (II), a hydrophobic backbone (III) and a hydrophilic tail (IV), and useful for the delivery of bioactive substances, are new.
DETAILED DESCRIPTION - Bipolar lipids (I) comprising a cationic head (II), a hydrophobic backbone (III) and a hydrophilic tail (IV), are new. (II) comprises two or more cationic centers each containing at least one heteroatom and which are covalently linked to one or more other centers by one or more carbon containing spacer groups. (III) comprises one or more hydrocarbon chains and (IV) comprises one or more acyclic hydrophilic hydrocarbons each containing two or more atoms or groups capable of being

solvated in water. Each of the components (II) - (IV) are covalently linked (II) to (III) to (IV) and arranged so that at least one hydrocarbon chain in (III) is covalently linked to a heteroatom in (II) and each hydrocarbon in the (IV) is covalently linked to a chain in (III) to achieve at least a 10 atom spacing along the chain between (IV) and (II).

INDEPENDENT CLAIMS are included for the following:

(1) targeted lipid in which (I) is assembled with one or more targeting molecules;

(2) a lipid complex comprising (I) in association with one or more bioactive substances;

(3) a composition comprising the complex as in (2) above;

(4) a method of preparing a lipid as above;

(5) use of the bioactive complex for delivering a bioactive substance to cells in vitro or in vivo; and

(6) a method for delivering a bioactive substance to a human or non-human animal where the bioactive substance, preferably a therapeutic, diagnostic or immunomodulatory agent, is administered in the form of a complex as above.

ACTIVITY - None specified.

MECHANISM OF ACTION - Improved drug delivery system.

No relevant data given.

USE - For delivery of bioactive substances in vivo or in vitro, preferably for delivery of therapeutics, diagnostics or immunomodulators (claimed).

Dwg.0/0

L103 ANSWER 7 OF 18 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1995-030268 [04] WPIX
DOC. NO. CPI: C1995-013589
TITLE: Use of radiolabelled substd. 6-nitroquipazine cpds. - as radioligands for measuring serotonin uptake sites in samples and tissues, partic. brain.
DERWENT CLASS: B02 B04 K08
INVENTOR(S): BIEGON, A; **ENAS, J D**; MATHIS, C A; TAYLOR, S E
PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5372813	A	19941213 (199504)*		14	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5372813	A	US 1992-994825	19921222

PRIORITY APPLN. INFO: US 1992-994825 19921222
ED 19950201
AB US 5372813 A UPAB: 19950201

A radioligand for measuring serotonin uptake sites comprises a radiolabelled substd. 6-nitroquipazine of formula (I): R1-R4 = H, F, Cl, Br, I, CF3CH2CH2F, CH3, CH2CH3 or CH(CH3)2, at least one of R1-R4 is other than H and at least one of R2-R3 is radiohalogenated.

USE - The radioligands are used for detecting serotonin uptake sites in tissues such as brain, intestine, blood vessels and platelets. They can be used for the study of serotonin uptake sites in the brain of depressed patients and Alzheimer`s disease patients for the diagnosis and therapy of

these diseases.

ADVANTAGE - The radioligands have high affinity and high specificity for serotonin uptake sites. The relative potency of the radioligands for the uptake sites is greater than that observed for other serotonin uptake ligands, e.g. sertraline and fluoxetine.

Dwg.0/6

L103 ANSWER 8 OF 18 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2003139094 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12653647
TITLE: Polyamines and novel polyamine conjugates interact with DNA in ways that can be exploited in non-viral gene therapy.
AUTHOR: Blagbrough I S; **Geall A J**; Neal A P
CORPORATE SOURCE: Department of Pharmacy and Pharmacology, University of Bath, Bath BA2 7AY, U.K.. prsisb@bath.ac.uk
SOURCE: Biochemical Society transactions, (2003 Apr) Vol. 31, No. 2, pp. 397-406. Ref: 93
Journal code: 7506897. ISSN: 0300-5127.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200403
ENTRY DATE: Entered STN: 20030326
Last Updated on STN: 20040303
Entered Medline: 20040302

ED Entered STN: 20030326
Last Updated on STN: 20040303
Entered Medline: 20040302

AB As a part of our continuing studies on 'Polyamines and their role in human disease' we are investigating how polyamines, and especially how novel polyamine conjugates, interact with DNA. We are studying how these conjugates interact with circular plasmids in order to produce nanometre-sized particles suitable for transfecting cells. Our considerations of structure--activity relationships (SAR) within naturally occurring and synthetic polyamines have shown the significance of the inter-atomic distances between the basic nitrogen atoms. As these atoms are typically fully protonated under physiological conditions, they exist in equilibrium as **polyammonium** ions. The covalent addition of a lipid moiety, typically one or two alkyl or alkenyl chains, or a steroid, allows much greater efficiency in DNA condensation and in the cellular transfection achieved. Thus efficient DNA condensation and subsequently drug delivery (i.e. with DNA as the drug) can be brought about using novel polyamine conjugates. Taking further advantage of the functionalization of specific steroids (e.g. cholesterol and certain bile acids), we have designed and prepared novel fluorescent molecular probes as tools to throw light on the problematic steps in non-viral gene delivery which still impede efficient gene therapy. Thus, the current aims of our research are to understand, design and prepare small-molecule lipopolyamines for non-viral gene therapy (NVGT). The rational design and practical preparation of non-symmetrical polyamine carbamates and amides, based on steroid templates of cholesterol and the bile acid lithocholic acid as the lipid moiety, provides fluorescent molecular probes that condense DNA. These novel lipopolyamine conjugates mimic the positive charge distribution found in the triamine spermidine and the tetra-amine spermine alkaloids. After optimizing their SAR, these fluorescent probes will be useful in monitoring gene delivery in NVGT.

L103 ANSWER 9 OF 18 MEDLINE on STN DUPLICATE 4

ACCESSION NUMBER: 2002271007 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12009937
TITLE: Efficient calf thymus DNA condensation upon binding with novel bile acid polyamine amides.
AUTHOR: **Geall Andrew J**; Al-Hadithi Dima; Blagbrough Ian S
CORPORATE SOURCE: Department of Pharmacy and Pharmacology, University of Bath, BA2 7AY, UK.
SOURCE: Bioconjugate chemistry, (2002 May-Jun) Vol. 13, No. 3, pp. 481-90.
Journal code: 9010319. ISSN: 1043-1802.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200212
ENTRY DATE: Entered STN: 20020516
Last Updated on STN: 20021217
Entered Medline: 20021203

ED Entered STN: 20020516
Last Updated on STN: 20021217
Entered Medline: 20021203

AB Polyamine amides have been prepared from lithocholic and cholic acids (5beta-colanes) by acylation of tri-Boc-protected tetraamines spermine and thermine. These designed ligands for DNA are **polyammonium** ions at physiological pH. In NMR spectra, they display 14N-1H 1J = 51 Hz, 1:1:1 triplets, due to the symmetry of the R14NH(3)+ cations. The binding affinities of these conjugates for calf thymus DNA were determined using an ethidium bromide fluorescence quenching assay and compared with spermine and polylysine. DNA-binding affinities were dependent upon both salt concentration and the hydrophobicity or intermolecular bonding (facial effects) of the lipid moieties in these conjugates. Light scattering at 320 nm was used to determine DNA condensation and particle formation. The observed self-assembly phenomena are discussed with respect to DNA charge neutralization and DNA bending with loss of ethidium cation intercalation sites, ultimately leading to DNA condensation. These polyamine amides are models for lipoplex formation with respect to gene delivery (lipofection), a key first step in gene therapy.

L103 ANSWER 10 OF 18 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2000273148 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10815726
TITLE: Rapid and sensitive ethidium bromide fluorescence quenching assay of polyamine conjugate-DNA interactions for the analysis of lipoplex formation in gene therapy.
AUTHOR: **Geall A J**; Blagbrough I S
CORPORATE SOURCE: Department of Pharmacy and Pharmacology, University of Bath, UK.
SOURCE: Journal of pharmaceutical and biomedical analysis, (2000 Jun) Vol. 22, No. 5, pp. 849-59.
Journal code: 8309336. ISSN: 0731-7085.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200007
ENTRY DATE: Entered STN: 20000810
Last Updated on STN: 20000810
Entered Medline: 20000727

ED Entered STN: 20000810
Last Updated on STN: 20000810

Entered Medline: 20000727

AB A rapid and sensitive fluorescent assay method is reported for assessing polyamine conjugate calf thymus DNA binding affinity using cholesterol polyamine carbamates with ethidium bromide as a probe. A reproducible method has been developed with an optimal excitation wavelength. Salt concentration is shown to be a critical parameter for both the observed fluorescence intensity of ethidium intercalated in DNA, and also for the binding of positively charged **polyammonium** ions to DNA, effecting charge neutralisation. This charge neutralisation precedes DNA condensation, a key first step in gene therapy.

L103 ANSWER 11 OF 18 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 1999456841 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10526161
TITLE: The regiochemical distribution of positive charges along cholesterol polyamine carbamates plays significant roles in modulating DNA binding affinity and lipofection.
AUTHOR: **Geall A J**; Eaton M A; Baker T; Catterall C; Blagbrough I S
CORPORATE SOURCE: Department of Pharmacy and Pharmacology, University of Bath, Bath, UK.
SOURCE: FEBS letters, (1999 Oct 15) Vol. 459, No. 3, pp. 337-42. Journal code: 0155157. ISSN: 0014-5793.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199911
ENTRY DATE: Entered STN: 20000111
Last Updated on STN: 20000111
Entered Medline: 19991122

ED Entered STN: 20000111
Last Updated on STN: 20000111
Entered Medline: 19991122

AB We have quantified the effects of the regiochemical distribution of positive charges along the polyamine moiety in lipopolyamines for DNA molecular recognition. High affinity binding leads to charge neutralisation, DNA condensation and ultimately to lipofection. Binding affinities for calf thymus DNA were determined using an ethidium bromide displacement assay and condensation was detected by changes in turbidity using light scattering. The in vitro transfection competence of cholesterol polyamine carbamates was measured in CHO cells. In the design of DNA condensing and transfecting agents for non-viral gene therapy, the interrelationship of **ammonium** ions, not just their number, must be considered.

L103 ANSWER 12 OF 18 MEDLINE on STN
ACCESSION NUMBER: 2002204994 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11937635
TITLE: Synergy between cationic lipid and co-lipid determines the macroscopic structure and transfection activity of lipoplexes.
AUTHOR: Ferrari Marilyn E; Rusalov Denis; **Enas Joel**; Wheeler Carl J
CORPORATE SOURCE: Department of Chemistry, Vical Incorporated, 9373 Towne Centre Drive, San Diego, CA 92121, USA.
SOURCE: Nucleic acids research, (2002 Apr 15) Vol. 30, No. 8, pp. 1808-16. Journal code: 0411011. E-ISSN: 1362-4962.
PUB. COUNTRY: England: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200204
ENTRY DATE: Entered STN: 20020409
Last Updated on STN: 20020419
Entered Medline: 20020418

ED Entered STN: 20020409
Last Updated on STN: 20020419
Entered Medline: 20020418

AB The large number of cytofectin and co-lipid combinations currently used for lipoplex-mediated gene delivery reflects the fact that the optimal cytofectin/co-lipid combination varies with the application. The effects of structural changes in both cytofectin and co-lipid were systematically examined to identify structure-activity relationships. Specifically, alkyl chain length, degree of unsaturation and the head group to which the alkyl side chain was attached were examined to determine their effect on lipoplex structure and biological activity. The macroscopic lipoplex structure was assessed using a dye-binding assay and the biological activity was examined using in vitro transfection in three diverse cell lines. Lipoplexes were formulated in three different vehicles currently in use for in vivo delivery of naked plasmid DNA (pDNA) and lipoplex formulations. The changes in dye accessibility were consistent with structural changes in the lipoplex, which correlated with alterations in the formulation. In contrast, transfection activity of different lipoplexes was cell type and vehicle dependent and did not correlate with dye accessibility. Overall, the results show a correlation between transfection and enhanced membrane fluidity in both the lipoplex and cellular membranes.

L103 ANSWER 13 OF 18 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2003:402754 BIOSIS
DOCUMENT NUMBER: PREV200300402754
TITLE: Acidity of basic polyamines: PKA studies of symmetrical and unsymmetrical polyamines and their conjugates compared with their DNA binding.
AUTHOR(S): Blagbrough, Ian S. [Reprint Author]; **Geall, Andrew J.** [Reprint Author]
CORPORATE SOURCE: Department of Pharmacy and Pharmacology, University of Bath, Bath, BA 2 7AY, UK
prsisb@bath.ac.uk
SOURCE: Abstracts of Papers American Chemical Society, (2003) Vol. 225, No. 1-2, pp. MEDI 142. print.
Meeting Info.: 225th American Chemical Society (ACS) National Meeting. New Orleans, LA, USA. March 23-27, 2003. American Chemical Society.
ISSN: 0065-7727 (ISSN print).
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 3 Sep 2003
Last Updated on STN: 3 Sep 2003

ED Entered STN: 3 Sep 2003
Last Updated on STN: 3 Sep 2003

L103 ANSWER 14 OF 18 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2002:510961 BIOSIS
DOCUMENT NUMBER: PREV200200510961

TITLE: Synthesis and DNA binding of steroid lipopolyamine conjugates: pKa studies of **polyammonium** ion ligands.
AUTHOR(S): Blagbrough, Ian S. [Reprint author]; **Geall, Andrew J.** [Reprint author]
CORPORATE SOURCE: Department of Pharmacy and Pharmacology, University of Bath, Bath, BA2 7AY, UK
prsisb@bath.ac.uk
SOURCE: Abstracts of Papers American Chemical Society, (2002) Vol. 224, No. 1-2, pp. MEDI 195. print.
Meeting Info.: 224th National Meeting of the American Chemical Society. Boston, MA, USA. August 18-22, 2002.
CODEN: ACSRAL. ISSN: 0065-7727.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 2 Oct 2002
Last Updated on STN: 2 Oct 2002
ED Entered STN: 2 Oct 2002
Last Updated on STN: 2 Oct 2002

L103 ANSWER 15 OF 18 PASCAL COPYRIGHT 2006 INIST-CNRS. ALL RIGHTS RESERVED.
on STN DUPLICATE 7
ACCESSION NUMBER: 1993-0557884 PASCAL
TITLE (IN ENGLISH): Nucleophilic aromatic substitution reactions with the fluoride ion : formation of 5-fluoro-indanones and indandiones related to atipamezole
AUTHOR: **ENAS J. D.**; GARCIA J. G.; MATHIS C. A.; GERDES J. M.
CORPORATE SOURCE: Univ. California, Lawrence Berkeley lab., res. medicine radiation biophysics div., Berkeley CA 94720, United States
SOURCE: Journal of fluorine chemistry, (1993), 63(3), 233-241, 17 refs.
ISSN: 0022-1139 CODEN: JFLCAR
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Switzerland
LANGUAGE: English
AVAILABILITY: INIST-15301, 354000035164900060
UP 20001027
AB The 5-nitro and 5-(trimethylammonium trifluoromethanesulfonyl)indanones 2a,b and the related 1,3-indandiones 3a,b have been synthesized, and the efficiency of the nucleophilic aromatic substitution reaction with fluoride ion on these substrates evaluated. The indandiones underwent aromatic substitution to afford fluoroaromatic adducts whereas the indanone substrates provided little or no fluoro-substitution product. The fluoroindandione was subsequently reduced to the corresponding fluoroindane hydrocarbon. The synthetic sequence of nucleophilic fluorination followed by carbonyl reduction provides a rationale for the potential preparation of the radiofluorinated α.sub.2-adrenoreceptor ligand 5-fluoroatipamezole

L103 ANSWER 16 OF 18 PASCAL COPYRIGHT 2006 INIST-CNRS. ALL RIGHTS RESERVED.
on STN
ACCESSION NUMBER: 2000-0438413 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Lipopolyamines incorporating the tetraamine spermine, bound to an alkyl chain, sequester bacterial

lipopolysaccharide
AUTHOR: BLAGBROUGH I. S.; **GEALL A. J.**; DAVID S. A.
CORPORATE SOURCE: Department of Pharmacy and Pharmacology, University of Bath, Bath, BA2 7AY, United Kingdom; Department of Microbiology, Immunology and Molecular Genetics, Kansas University Medical Center, Kansas City, KS 66160, United States
SOURCE: Bioorganic & medicinal chemistry letters, (2000), 10(17), 1959-1962, 17 refs.
ISSN: 0960-894X
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-22446, 354000091472410150
UP 20001123
AB Lipopolyamines, with high affinity for calf thymus DNA in an ethidium bromide displacement assay, bind with high affinity to bacterial lipopolysaccharide and neutralise in vitro endotoxic activity as determined by Griess nitric oxide and TNF-α ELISA assays.

L103 ANSWER 17 OF 18 DRUGU COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2002-45170 DRUGU C B P
TITLE: Synthesis and DNA binding of steroid lipopolyamine conjugates: pKa studies of polyammonium ion ligands.
AUTHOR: Blagbrough I S; **Geall A J**
CORPORATE SOURCE: Univ.Bath
LOCATION: Bath, U.K.
SOURCE: Abstr.Pap.Am.Chem.Soc. (224 Meet., Pt. 2, MEDI 195, 2002)
CODEN: ACSRAL ISSN: 0065-7727
AVAIL. OF DOC.: Department of Pharmacy and Pharmacology, University of Bath, Bath BA2 7AY, England. (e-mail: prsisb@bath.ac.uk).
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB Selective polyamine-DNA interactions are useful in the design of medicinally active agents for novel lead generation and for the potential treatment of e.g. cancer, infectious diseases and as vectors in non-viral gene therapy. SAR studies of steroid lipopolyamine binding to DNA, and then condensation of DNA clearly indicate that polyammonium ions bind efficiently to duplex DNA. Steroidal lipopolyamine conjugates using orthogonal protection strategy, were designed and synthesized. Particular attention was given to both the number of positive charges (**ammonium** ions) and their regiochemical distribution along the alkyl chain with 2, 3, and 4 CH2 spacers where all amines are not protonated as some pKa values of these bases are below those of acetic and even haloacetic acids. (conference abstract: 224th ACS National Meeting, Boston, Massachusetts, USA, 2002). (No EX).

L103 ANSWER 18 OF 18 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2002:717319 SCISEARCH
THE GENUINE ARTICLE: 583RM
TITLE: Synthesis and DNA binding of steroid lipopolyamine conjugates: PKA studies of **polyammonium** ion ligands.
AUTHOR: Blagbrough I S (Reprint); **Geall A J**
CORPORATE SOURCE: Univ Bath, Dept Pharm & Pharmacol, Bath BA2 7AY, Avon, England

COUNTRY OF AUTHOR: England
SOURCE: ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY, (18 AUG 2002) Vol. 224, Part 2, pp. U40-U40. MA 195-MEDI. ISSN: 0065-7727.
PUBLISHER: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA.
DOCUMENT TYPE: Conference; Journal
LANGUAGE: English
REFERENCE COUNT: 0
ENTRY DATE: Entered STN: 20 Sep 2002
Last Updated on STN: 20 Sep 2002
ED Entered STN: 20 Sep 2002
Last Updated on STN: 20 Sep 2002

=> file stnguide
FILE 'STNGUIDE' ENTERED AT 13:32:57 ON 14 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Mar 10, 2006 (20060310/UP).

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=> d his ful

     (FILE 'HOME' ENTERED AT 10:47:43 ON 14 MAR 2006)

     FILE 'STNGUIDE' ENTERED AT 10:47:54 ON 14 MAR 2006

     FILE 'ZCAPLUS' ENTERED AT 10:48:35 ON 14 MAR 2006
               E US2003-725015/APPS

     FILE 'HCAPLUS' ENTERED AT 10:48:53 ON 14 MAR 2006
L1             1 SEA ABB=ON  PLU=ON  US2003-725015/APPS
               SAVE TEMP L1 SCH015HCAAPP/A

     FILE 'STNGUIDE' ENTERED AT 10:49:08 ON 14 MAR 2006
               D SCAN

     FILE 'HCAPLUS' ENTERED AT 10:49:20 ON 14 MAR 2006
               D SCAN

     FILE 'STNGUIDE' ENTERED AT 10:49:24 ON 14 MAR 2006

     FILE 'HCAPLUS' ENTERED AT 10:49:55 ON 14 MAR 2006
               D IBIB ED AB IND

     FILE 'STNGUIDE' ENTERED AT 10:49:56 ON 14 MAR 2006

     FILE 'WPIX' ENTERED AT 10:50:49 ON 14 MAR 2006
L2             1 SEA ABB=ON  PLU=ON  US2003-725015/APPS
               SAVE TEMP SCH015WPIAPP/A L2
               D IALL CODE

     FILE 'STNGUIDE' ENTERED AT 10:51:19 ON 14 MAR 2006

     FILE 'REGISTRY' ENTERED AT 10:51:54 ON 14 MAR 2006

     FILE 'HCAPLUS' ENTERED AT 10:51:58 ON 14 MAR 2006
L3             TRA L1 1- RN :         8 TERMS

     FILE 'REGISTRY' ENTERED AT 10:52:02 ON 14 MAR 2006
L4             8 SEA ABB=ON  PLU=ON  L3
               SAVE TEMP L4 SCH015REGAPP/A
               D SCAN

     FILE 'STNGUIDE' ENTERED AT 10:52:51 ON 14 MAR 2006

     FILE 'REGISTRY' ENTERED AT 10:55:05 ON 14 MAR 2006
L5             3 SEA ABB=ON  PLU=ON  L4 AND ?PROPANAMINIUM?/CNS
L6             5 SEA ABB=ON  PLU=ON  L4 NOT L5
               D SCAN
L7             1 SEA ABB=ON  PLU=ON  L6 AND ?HEXYLOXY?/CNS
L8             4 SEA ABB=ON  PLU=ON  L5 OR L7
               SAVE TEMP L8 SCH015CLM/A
               D SCAN
L9             4 SEA ABB=ON  PLU=ON  L4 NOT L8
               D SCAN

     FILE 'STNGUIDE' ENTERED AT 10:57:38 ON 14 MAR 2006
               D QUE STAT L8

     FILE 'REGISTRY' ENTERED AT 10:58:05 ON 14 MAR 2006
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                D IDE L8 1-4

     FILE 'STNGUIDE' ENTERED AT 10:58:06 ON 14 MAR 2006

     FILE 'STNGUIDE' ENTERED AT 10:58:20 ON 14 MAR 2006

     FILE 'LREGISTRY' ENTERED AT 10:58:43 ON 14 MAR 2006
L10             STRUCTURE UPLOADED
L11             STR L10

     FILE 'REGISTRY' ENTERED AT 11:05:41 ON 14 MAR 2006
L12           1 SEA SSS SAM L11
                D SCAN

     FILE 'LREGISTRY' ENTERED AT 11:06:07 ON 14 MAR 2006
L13             STR L11

     FILE 'REGISTRY' ENTERED AT 11:08:32 ON 14 MAR 2006
L14           0 SEA SSS SAM L13
                D QUE STAT

     FILE 'LREGISTRY' ENTERED AT 11:09:26 ON 14 MAR 2006
L15             STR L13

     FILE 'REGISTRY' ENTERED AT 11:09:55 ON 14 MAR 2006
L16           0 SEA SSS SAM L15

     FILE 'LREGISTRY' ENTERED AT 11:10:03 ON 14 MAR 2006

     FILE 'LREGISTRY' ENTERED AT 11:10:08 ON 14 MAR 2006
L17             STR L11
L18             STR L15

     FILE 'REGISTRY' ENTERED AT 11:11:51 ON 14 MAR 2006
L19           1 SEA SSS SAM L17
                D SCAN
                D QUE STAT

     FILE 'STNGUIDE' ENTERED AT 11:12:47 ON 14 MAR 2006

     FILE 'REGISTRY' ENTERED AT 11:15:22 ON 14 MAR 2006
L20          33 SEA SSS FUL L17
L21           4 SEA ABB=ON  PLU=ON  L20 AND L8
                D SCAN L20

     FILE 'STNGUIDE' ENTERED AT 11:16:47 ON 14 MAR 2006

     FILE 'LREGISTRY' ENTERED AT 11:21:00 ON 14 MAR 2006
L22             STR L17

     FILE 'STNGUIDE' ENTERED AT 11:21:49 ON 14 MAR 2006

     FILE 'REGISTRY' ENTERED AT 11:21:59 ON 14 MAR 2006
L23           0 SEA SSS SAM L22
                D QUE STAT
                SAVE TEMP L20 SCH015PSET1/A
L24           0 SEA SUB=L20 SSS SAM L22
L25          10 SEA SUB=L20 SSS FUL L22
                SAVE TEMP L25 SCH015RSET1/A
                D SCAN
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     FILE 'STNGUIDE' ENTERED AT 11:24:26 ON 14 MAR 2006

     FILE 'REGISTRY' ENTERED AT 11:25:48 ON 14 MAR 2006
L26           8 SEA ABB=ON  PLU=ON  L25 AND N=1
L27           2 SEA ABB=ON  PLU=ON  L25 NOT L26
                D SCAN
                SAVE TEMP L26 SCH015RSET2/A
L28             ANALYZE PLU=ON  L26 1- LC :       4 TERMS
                D 1-4

     FILE 'STNGUIDE' ENTERED AT 11:27:19 ON 14 MAR 2006
                D SAVED

     FILE 'HCAPLUS, USPATFULL, TOXCENTER' ENTERED AT 11:28:56 ON 14 MAR 2006
L29           5 SEA ABB=ON  PLU=ON  L26
                D SCAN
                SAVE TEMP L29 SCH015MUL1S/A

     FILE 'STNGUIDE' ENTERED AT 11:29:48 ON 14 MAR 2006
                D QUE L26

     FILE 'BEILSTEIN' ENTERED AT 11:30:29 ON 14 MAR 2006
L30           0 SEA SSS FUL L22
                SAVE TEMP L30 SCH015BEI1/A

     FILE 'MARPAT' ENTERED AT 11:32:24 ON 14 MAR 2006
L31           0 SEA SSS SAM L22
                D QUE STAT

     FILE 'STNGUIDE' ENTERED AT 11:33:13 ON 14 MAR 2006

     FILE 'LREGISTRY' ENTERED AT 11:37:23 ON 14 MAR 2006
L32             STR L22

     FILE 'STNGUIDE' ENTERED AT 11:42:29 ON 14 MAR 2006

     FILE 'MARPAT' ENTERED AT 11:42:51 ON 14 MAR 2006
L33           1 SEA SSS SAM L32
                D SCAN

     FILE 'STNGUIDE' ENTERED AT 11:43:03 ON 14 MAR 2006
                D QUE STAT

     FILE 'LREGISTRY' ENTERED AT 11:45:04 ON 14 MAR 2006
L34             STR L32

     FILE 'MARPAT' ENTERED AT 11:46:40 ON 14 MAR 2006
L35           1 SEA SSS SAM L34
                D SCAN
                D QUE STAT

     FILE 'STNGUIDE' ENTERED AT 11:47:41 ON 14 MAR 2006

     FILE 'MARPAT' ENTERED AT 11:50:11 ON 14 MAR 2006
L36           5 SEA SSS FUL L34
                SAVE TEMP L36 SCH015MAR1/A
                D SCAN

     FILE 'STNGUIDE' ENTERED AT 11:51:24 ON 14 MAR 2006
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     FILE 'MARPAT' ENTERED AT 11:53:21 ON 14 MAR 2006

     FILE 'STNGUIDE' ENTERED AT 11:53:58 ON 14 MAR 2006
                D SAVED
                D QUE L26

     FILE 'WPIX' ENTERED AT 11:55:05 ON 14 MAR 2006
L37             0 SEA SSS SAM L22
                D QUE STAT
                D QUE L26
L38             0 SEA SSS SAM L22
L39             0 SEA SSS FUL L22
                SAVE TEMP L39 SCH015WPIS/A

     FILE 'STNGUIDE' ENTERED AT 11:56:33 ON 14 MAR 2006
                D SAVED
                D QUE STAT L25

     FILE 'CHEMINFORMRX' ENTERED AT 12:30:07 ON 14 MAR 2006
                D QUE L26
L40             0 SEA SSS SAM L22 (     0 REACTIONS)
L41             0 SEA SSS FUL L22 (     0 REACTIONS)
                SAVE TEMP L41 SCH015CHMS/A

     FILE 'ZCAPLUS' ENTERED AT 12:31:32 ON 14 MAR 2006
L42             QUE ABB=ON  PLU=ON  GEALL, A?/AU
L43             QUE ABB=ON  PLU=ON  ENAS, J?/AU
L44             QUE ABB=ON  PLU=ON  CATION?
L45             QUE ABB=ON  PLU=ON  ?QUATERN?(3A)(?NITROGEN? OR N OR ?AMINE?
                OR ?AMMONIUM? OR ?AMINIUM?)
L46             QUE ABB=ON  PLU=ON  ?AMMONIUM? OR ?AMINIUM?
L47             QUE ABB=ON  PLU=ON  ?SURFACT?

     FILE 'HCAPLUS' ENTERED AT 12:34:25 ON 14 MAR 2006
L48            55 SEA ABB=ON  PLU=ON  (L42 OR L43)
L49             3 SEA ABB=ON  PLU=ON  L48 AND L47
L50            14 SEA ABB=ON  PLU=ON  L48 AND (L45 OR L46)
L51             3 SEA ABB=ON  PLU=ON  L49 AND L50
                D SCAN TI HIT

     FILE 'STNGUIDE' ENTERED AT 12:35:26 ON 14 MAR 2006

     FILE 'HCAPLUS' ENTERED AT 12:36:03 ON 14 MAR 2006
                SAVE TEMP L51 SCH015HCAINV/A
                D SCAN

     FILE 'STNGUIDE' ENTERED AT 12:36:24 ON 14 MAR 2006

     FILE 'ZCAPLUS' ENTERED AT 12:37:08 ON 14 MAR 2006
L52             QUE ABB=ON  PLU=ON  ?NUCLEOTID? OR POLYNUCLEOTID? OR OLIGONUCLE
                OTID? OR DINUCLEOTID? OR TRINUCLEOTID? OR DNA OR (?NUCLEIC?(1A)
                ACID) OR DEOXYRIBONUCLEIC OR RIBONUCLEIC

     FILE 'HCAPLUS' ENTERED AT 12:38:37 ON 14 MAR 2006

     FILE 'ZCAPLUS' ENTERED AT 12:38:50 ON 14 MAR 2006
                E QUATERNARY AMMONIUM/CT
                E E17+ALL
L53             QUE ABB=ON  PLU=ON  "QUATERNARY AMMONIUM COMPOUNDS"+PFT,OLD,NT/
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                CT
L54             QUE ABB=ON  PLU=ON  POLYNUCLEOTIDES+PFT,OLD,NT/CT
                E SURFACTANTS/CT
L55             QUE ABB=ON  PLU=ON  SURFACTANTS+PFT,OLD,NT/CT

     FILE 'HCAPLUS' ENTERED AT 12:40:01 ON 14 MAR 2006
L56          170 SEA ABB=ON  PLU=ON  L53 AND L54
L57         9191 SEA ABB=ON  PLU=ON  L53 (L) L47
L58         4672 SEA ABB=ON  PLU=ON  L55 (L) (L45 OR L46)
L59            5 SEA ABB=ON  PLU=ON  (L57 OR L58) AND L54
L60            3 SEA ABB=ON  PLU=ON  L59 NOT L51
                D SCAN TI HIT

     FILE 'STNGUIDE' ENTERED AT 12:42:01 ON 14 MAR 2006

     FILE 'HCAPLUS' ENTERED AT 12:42:29 ON 14 MAR 2006
                SAVE TEMP L59 SCH015HCA1/A

     FILE 'STNGUIDE' ENTERED AT 12:42:43 ON 14 MAR 2006

     FILE 'WPIX' ENTERED AT 12:43:07 ON 14 MAR 2006
L61            6 SEA ABB=ON  PLU=ON  (L42 OR L43)
L62               QUE ABB=ON  PLU=ON  (B10-A22 OR C10-A22)/MC
                  D TRI L61 1-6
                  SAVE TEMP L61 SCH015WPIINV/A
L63          413 SEA ABB=ON  PLU=ON  L62 AND ((CATION?/BIX) (10A) (?SURFACT?/BIX
                  ))
L64         5975 SEA ABB=ON  PLU=ON  ((?QUATERN?/BIX(3A)(?NITROGEN?/BIX OR
                  N/BIX OR ?AMINE?/BIX OR ?AMMONIUM?/BIX OR ?AMINIUM?/BIX)) OR
                  (?AMMONIUM?/BIX OR ?AMINIUM?/BIX))(10A)(?SURFACT?/BIX)
L65          181 SEA ABB=ON  PLU=ON  L63 AND L64
L66           19 SEA ABB=ON  PLU=ON  L65 AND (?NUCLEOTID?/BIX OR POLYNUCLEOTID?/
                  BIX OR OLIGONUCLEOTID?/BIX OR DINUCLEOTID?/BIX OR TRINUCLEOTID?
                  /BIX OR DNA/BIX OR (?NUCLEIC?/BIX(1A)ACID/BIX) OR DEOXYRIBONUCL
                  EIC/BIX OR RIBONUCLEIC/BIX)
                  D TRI 1-19
L67               QUE ABB=ON  PLU=ON  A61K031-08/IPC
L68            2 SEA ABB=ON  PLU=ON  L66 AND L67
                  D TRI 1-2
                  D KWIC L68 2
                  SAVE TEMP L68 SCH015WPI1/A

     FILE 'STNGUIDE' ENTERED AT 12:53:56 ON 14 MAR 2006

     FILE 'MEDLINE' ENTERED AT 12:54:43 ON 14 MAR 2006
L69           18 SEA ABB=ON  PLU=ON  (L42 OR L43)
L70            5 SEA ABB=ON  PLU=ON  L69 AND (L45 OR L46)
L71            0 SEA ABB=ON  PLU=ON  L70 AND L47
                  D TRI L70 1-5
                  SAVE TEMP L70 SCH015MEDINV/A

     FILE 'REGISTRY' ENTERED AT 12:56:42 ON 14 MAR 2006
                SET SMARTSELECT ON
L72             SEL PLU=ON  L26 1- CHEM :        8 TERMS
                SET SMARTSELECT OFF

     FILE 'MEDLINE' ENTERED AT 12:56:43 ON 14 MAR 2006
L73            0 SEA ABB=ON  PLU=ON  L72
L74               QUE ABB=ON  PLU=ON  "QUATERNARY AMMONIUM COMPOUNDS"+PFT,OLD,NT/
                  CT
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                E SURFACTANTS
                E SURFACTANTS/CT
                E E53+ALL
L75         68609 SEA ABB=ON  PLU=ON  "SURFACE-ACTIVE AGENTS"+PFT,OLD,NT/CT
L76          4201 SEA ABB=ON  PLU=ON  L74 AND (L47 OR L75)
L77           358 SEA ABB=ON  PLU=ON  L76 AND L52
L78            52 SEA ABB=ON  PLU=ON  L45 (10A) L52
L79             3 SEA ABB=ON  PLU=ON  L77 AND L78
                D TRI 1-3
                SAVE TEMP L79 SCH015MED1/A

     FILE 'STNGUIDE' ENTERED AT 12:59:09 ON 14 MAR 2006
                D SAVED

     FILE 'EMBASE' ENTERED AT 13:00:09 ON 14 MAR 2006
L80            28 SEA ABB=ON  PLU=ON  (L42 OR L43)
L81             3 SEA ABB=ON  PLU=ON  L80 AND (L45 OR L46)
                D TRI 1-3

     FILE 'STNGUIDE' ENTERED AT 13:00:36 ON 14 MAR 2006

     FILE 'EMBASE' ENTERED AT 13:01:00 ON 14 MAR 2006
                SAVE TEMP L81 SCH015EMBINV/A
                E QUATERNARY AMMONIUM/CT
                E E67+ALL
L82             QUE ABB=ON  PLU=ON  "QUATERNARY AMMONIUM DERIVATIVE"+PFT,OLD,NT
                /CT
                E SUFACTANT/CT
                E SURFACTANT
                E SURFACTANT/CT
L83             QUE ABB=ON  PLU=ON  SURFACTANT+PFT,OLD,NT/CT

     FILE 'STNGUIDE' ENTERED AT 13:02:30 ON 14 MAR 2006

     FILE 'EMBASE' ENTERED AT 13:02:53 ON 14 MAR 2006
L84            586 SEA ABB=ON  PLU=ON  (L45 OR L46)(15A)L52
L85             29 SEA ABB=ON  PLU=ON  L84 AND L47
L86            121 SEA ABB=ON  PLU=ON  L84 AND L82
L87             61 SEA ABB=ON  PLU=ON  L86 AND (L47 OR L83)
L88            204 SEA ABB=ON  PLU=ON  L47 (15A) L52
L89             15 SEA ABB=ON  PLU=ON  L87 AND L88
                D TRI 1-15

     FILE 'STNGUIDE' ENTERED AT 13:04:40 ON 14 MAR 2006

     FILE 'EMBASE' ENTERED AT 13:05:52 ON 14 MAR 2006
L90              0 SEA ABB=ON  PLU=ON  L89 AND ETHER?
                SAVE TEMP L89 SCH015EMB1/A

     FILE 'STNGUIDE' ENTERED AT 13:06:43 ON 14 MAR 2006

     FILE 'BIOSIS, PASCAL, JICST-EPLUS, CABA, LIFESCI, BIOENG, BIOTECHNO,
     BIOTECHDS, DRUGU, DRUGB, VETU, VETB, SCISEARCH, CONF, CONFSCI, DISSABS'
     ENTERED AT 13:07:44 ON 14 MAR 2006
L91            177 SEA ABB=ON  PLU=ON  (L42 OR L43)
L92             20 SEA ABB=ON  PLU=ON  L91 AND (L45 OR L46)
L93              1 SEA ABB=ON  PLU=ON  L92 AND (L47 OR (SURFACE(3A)(ACTING OR
                 ACTION)))
                D SCAN
L94             20 SEA ABB=ON  PLU=ON  L92 OR L93
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                SAVE TEMP L94 SCH015MULINV/A
L95          4451 SEA ABB=ON  PLU=ON  (L45/TI,IT,CC,CT,ST,STP OR L46/TI,IT,CC,CT,
                ST,STP) AND L52/TI,IT,CC,CT,ST,STP
L96          2816 SEA ABB=ON  PLU=ON  (L45 OR L46)(10A) L52
L97           790 SEA ABB=ON  PLU=ON  L95 AND L96
L98            39 SEA ABB=ON  PLU=ON  L97 AND L47/TI,IT,CC,CT,ST,STP
L99          1772 SEA ABB=ON  PLU=ON  L47(15A) L52
L100           31 SEA ABB=ON  PLU=ON  L98 AND L99
                SAVE TEMP L100 SCH015MUL1/A
                D SAVED

     FILE 'STNGUIDE' ENTERED AT 13:23:01 ON 14 MAR 2006
                D QUE STAT L20
                D QUE STAT L25
                D QUE STAT L26
                D QUE L28
                D L28 1-
                D QUE STAT L30
                D QUE STAT L39
                D QUE STAT L41
                D QUE STAT L36
                D QUE STAT L29

     FILE 'HCAPLUS, USPATFULL, TOXCENTER, MARPAT' ENTERED AT 13:25:10 ON 14
     MAR 2006
L101            9 DUP REM L29 L36 L39 L41 (1 DUPLICATE REMOVED)
                      ANSWERS '1-2' FROM FILE HCAPLUS
                      ANSWERS '3-4' FROM FILE USPATFULL
                      ANSWERS '5-9' FROM FILE MARPAT

     FILE 'STNGUIDE' ENTERED AT 13:25:15 ON 14 MAR 2006

     FILE 'HCAPLUS, USPATFULL, MARPAT' ENTERED AT 13:25:28 ON 14 MAR 2006
                D IBIB ED AB HITSTR 1-2

     FILE 'STNGUIDE' ENTERED AT 13:25:29 ON 14 MAR 2006

     FILE 'HCAPLUS, USPATFULL, MARPAT' ENTERED AT 13:25:41 ON 14 MAR 2006
                D IBIB AB HITSTR 3-4

     FILE 'STNGUIDE' ENTERED AT 13:25:41 ON 14 MAR 2006

     FILE 'HCAPLUS, USPATFULL, MARPAT' ENTERED AT 13:26:00 ON 14 MAR 2006
                D IBIB ED AB FHIT 5-6

     FILE 'STNGUIDE' ENTERED AT 13:26:08 ON 14 MAR 2006

     FILE 'HCAPLUS, USPATFULL, MARPAT' ENTERED AT 13:27:05 ON 14 MAR 2006
                D IBIB AB FHIT 7-9

     FILE 'STNGUIDE' ENTERED AT 13:27:07 ON 14 MAR 2006
                D QUE L59
                D QUE L68
                D QUE L79
                D QUE L90
                D QUE L89
                D QUE L100

     FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, JICST-EPLUS,
     LIFESCI, BIOTECHNO, SCISEARCH' ENTERED AT 13:29:12 ON 14 MAR 2006
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L102          45 DUP REM L59 L68 L79 L89 L100 (11 DUPLICATES REMOVED)
                     ANSWERS '1-5' FROM FILE HCAPLUS
                     ANSWER '6' FROM FILE WPIX
                     ANSWERS '7-9' FROM FILE MEDLINE
                     ANSWERS '10-24' FROM FILE EMBASE
                     ANSWERS '25-27' FROM FILE BIOSIS
                     ANSWERS '28-29' FROM FILE PASCAL
                     ANSWER '30' FROM FILE LIFESCI
                     ANSWER '31' FROM FILE BIOTECHNO
                     ANSWERS '32-45' FROM FILE SCISEARCH

     FILE 'STNGUIDE' ENTERED AT 13:29:23 ON 14 MAR 2006

     FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, LIFESCI, BIOTECHNO,
     SCISEARCH' ENTERED AT 13:29:39 ON 14 MAR 2006
               D IBIB ED AB HITIND RETABLE 1-5

     FILE 'STNGUIDE' ENTERED AT 13:29:41 ON 14 MAR 2006

     FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, LIFESCI, BIOTECHNO,
     SCISEARCH' ENTERED AT 13:29:53 ON 14 MAR 2006
               D IALL ABEQ TECH ABEX 6

     FILE 'STNGUIDE' ENTERED AT 13:29:55 ON 14 MAR 2006

     FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, LIFESCI, BIOTECHNO,
     SCISEARCH' ENTERED AT 13:30:24 ON 14 MAR 2006
               D BIB ED AB HITIND 7-45

     FILE 'STNGUIDE' ENTERED AT 13:30:27 ON 14 MAR 2006
               D QUE L51
               D QUE L61
               D QUE L70
               D QUE L81
               D QUE L94

     FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, BIOENG, BIOTECHNO,
     DRUGU, SCISEARCH' ENTERED AT 13:32:08 ON 14 MAR 2006
L103          18 DUP REM L51 L61 L70 L81 L94 (19 DUPLICATES REMOVED)
                     ANSWERS '1-3' FROM FILE HCAPLUS
                     ANSWERS '4-7' FROM FILE WPIX
                     ANSWERS '8-12' FROM FILE MEDLINE
                     ANSWERS '13-14' FROM FILE BIOSIS
                     ANSWERS '15-16' FROM FILE PASCAL
                     ANSWER '17' FROM FILE DRUGU
                     ANSWER '18' FROM FILE SCISEARCH

     FILE 'STNGUIDE' ENTERED AT 13:32:21 ON 14 MAR 2006

     FILE 'HCAPLUS, WPIX, MEDLINE, BIOSIS, PASCAL, DRUGU, SCISEARCH' ENTERED
     AT 13:32:30 ON 14 MAR 2006
               D IBIB ED AB L103 1-18

     FILE 'STNGUIDE' ENTERED AT 13:32:35 ON 14 MAR 2006

     FILE 'STNGUIDE' ENTERED AT 13:32:57 ON 14 MAR 2006


     FILE HOME
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FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Mar 10, 2006 (20060310/UP).

FILE ZCAPLUS

FILE COVERS 1907 - 14 Mar 2006 VOL 144 ISS 12
FILE LAST UPDATED: 13 Mar 2006 (20060313/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE HCAPLUS

FILE COVERS 1907 - 14 Mar 2006 VOL 144 ISS 12
FILE LAST UPDATED: 13 Mar 2006 (20060313/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE WPIX
FILE LAST UPDATED: 10 MAR 2006 <20060310/UP>
MOST RECENT DERWENT UPDATE: 200617 <200617/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
http://scientific.thomson.com/support/patents/coverage/latestupdates/

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT:
http://scientific.thomson.com/support/products/dwpi/

>>> FAST-ALERTING ACCESS TO NEWLY-PUBLISHED PATENT
DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
FIRST VIEW - FILE WPIFV.
FOR FURTHER DETAILS:
http://scientific.thomson.com/support/products/dwpifv/

>>> THE CPI AND EPI MANUAL CODES WILL BE REVISED FROM UPDATE 200601.
PLEASE CHECK:
http://scientific.thomson.com/support/patents/dwpiref/reftools/classificat

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html and
http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf <<<

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 13 MAR 2006 HIGHEST RN 876655-59-3
DICTIONARY FILE UPDATES: 13 MAR 2006 HIGHEST RN 876655-59-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

****
* *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
* *
****

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE LREGISTRY
LREGISTRY IS A STATIC LEARNING FILE

NEW CAS INFORMATION USE POLICIES, ENTER HELP USAGETERMS FOR DETAILS.

FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 14 Mar 2006 (20060314/PD)
FILE LAST UPDATED: 14 Mar 2006 (20060314/ED)
HIGHEST GRANTED PATENT NUMBER: US7013485
HIGHEST APPLICATION PUBLICATION NUMBER: US2006053519
CA INDEXING IS CURRENT THROUGH 14 Mar 2006 (20060314/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 14 Mar 2006 (20060314/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

FILE TOXCENTER

FILE COVERS 1907 TO 14 Mar 2006 (20060314/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

The MEDLINE file segment has been updated with 2006 MEDLINE data and features. See HELP RLOAD for details.

TOXCENTER thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.
See http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html
for a description of changes.

FILE BEILSTEIN
FILE LAST UPDATED ON JANUARY 17, 2006

FILE COVERS 1771 TO 2005.
FILE CONTAINS 9,428,406 SUBSTANCES

>>>PLEASE NOTE: Reaction Data and substance data are stored in separate documents and can not be searched together in one query. Reaction data for BEILSTEIN compounds may be displayed immediately with the display codes PRE (preparations) and REA (reactions). A substance answer set retrieved after the search for a chemical name, a compounds with available reaction information by combining with PRE/FA, REA/FA or more generally with RX/FA. The BEILSTEIN Registry Number (BRN) is the link between a BEILSTEIN compound and belonging reactions. For mo detailed reaction searches BRNs can be searched as reaction partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

****
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST. *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS. *
* FOR PRICE INFORMATION SEE HELP COST *
****

NEW

*** PATENT NUMBERS (PN) AND BABS ACCESSION NUMBERS (BABSAN) CAN NOW BE SEARCHED, SELECTED AND TRANSFERRED.**
*** NEW DISPLAY FORMATS ALLREF, ALLP AND BABSAN SHOW ALL REFERENCES, ALL PATENT REFERENCES, OR ALL BABS ACCESSION NUMBERS FOR A COMPOUND AT A GLANCE.**

FILE MARPAT
FILE CONTENT: 1910-PRESENT VOL 144 ISS 11 (20060310/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1910-1987

MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES

(COVERAGE TO THESE DATES IS NOT COMPLETE):

US 2006030554 09 FEB 2006
DE 102004053311 05 JAN 2006
EP 1609846 28 DEC 2005
JP 2006003337 05 JAN 2006
WO 2006012333 02 FEB 2006
GB 2415429 28 DEC 2005
FR 2873371 27 JAN 2006
RU 2266908 27 DEC 2005
CA 2495134 23 DEC 2005

Expanded G-group definition display now available.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

FILE CHEMINFORMRX
FILE LAST UPDATED: 8 MAR 2006 <20060308/UP>

>>> CAS Registry Numbers are available for
substances prior to 1995 <<<

FILE MEDLINE
FILE LAST UPDATED: 11 MAR 2006 (20060311/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>). See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE EMBASE
FILE COVERS 1974 TO 10 Mar 2006 (20060310/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

The updates on February 20 and 24, 2006, were incomplete due to a technical problem. The problem has been corrected, and the missing records were included in the update on March 3, 2006. If you received SDI results from the original updates on February 20 and 24, you will automatically be credited for the update that was rerun on March 3.

If you have any questions, please contact your STN Service Center.

This file contains CAS Registry Numbers for easy and accurate

substance identification.

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 9 March 2006 (20060309/ED)

FILE PASCAL
FILE LAST UPDATED: 13 MAR 2006 <20060313/UP>
FILE COVERS 1977 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE
IN THE BASIC INDEX (/BI) FIELD <<<

FILE JICST-EPLUS
FILE COVERS 1985 TO 13 MAR 2006 (20060313/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED
TERM (/CT) THESAURUS RELOAD.

FILE CABA
FILE COVERS 1973 TO 2 Mar 2006 (20060302/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

The CABA file was reloaded 7 December 2003. Enter HELP RLOAD for details.

FILE LIFESCI
FILE COVERS 1978 TO 15 Feb 2006 (20060215/ED)

FILE BIOENG
FILE LAST UPDATED: 15 FEB 2006 <20060215/UP>
FILE COVERS 1982 TO DATE

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
THE BASIC INDEX <<<

FILE BIOTECHNO
FILE LAST UPDATED: 7 JAN 2004 <20040107/UP>
FILE COVERS 1980 TO 2003.

>>> BIOTECHNO IS NO LONGER BEING UPDATED AS OF 2004 <<<

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
/CT AND BASIC INDEX <<<

FILE BIOTECHDS
FILE LAST UPDATED: 7 MAR 2006 <20060307/UP>
FILE COVERS 1982 TO DATE

>>> USE OF THIS FILE IS LIMITED TO BIOTECH SUBSCRIBERS <<<

FILE DRUGU
FILE LAST UPDATED: 10 MAR 2006 <20060310/UP>
>>> DERWENT DRUG FILE (SUBSCRIBER) <<<

>>> FILE COVERS 1983 TO DATE <<<
>>> THESAURUS AVAILABLE IN /CT <<<

FILE DRUGB
>>> FILE COVERS 1964 TO 1982 - CLOSED FILE <<<

FILE VETU
FILE LAST UPDATED: 02 JAN 2002 <20020102/UP>
FILE COVERS 1983-2001

FILE VETB
FILE LAST UPDATED: 25 SEP 94 <940925/UP>
FILE COVERS 1968-1982

FILE SCISEARCH

FILE COVERS 1974 TO 9 Mar 2006 (20060309/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE CONF
FILE LAST UPDATED: 23 DEC 2005 <20051223/UP>
FILE COVERS 1976 TO 2005.

<<< CONF IS NO LONGER BEING UPDATED AS OF JANUARY 2006 >>>

FILE CONFSCI
FILE COVERS 1973 TO 25 May 2005 (20050525/ED)

CSA has suspended updates until further notice.

FILE DISSABS
FILE COVERS 1861 TO 24 FEB 2006 (20060224/ED)

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